[1]MyToramp2.java

```
/*
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        ３の倍数のトランプカード
        Android 4.1 (Jelly Bean)
      Copyright(C) K.Niwa 2021.2.14
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*/

package jp.kiyo.wuena.mytoramp2;

import android.content.Context;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.Rect;
import android.util.AttributeSet;
import android.view.View;
import android.content.res.Resources;  //画像用
import android.graphics.*;
import android.view.*;

public class MyToramp2 extends View {

    private Bitmap bitmap1 = null;
    private Bitmap bitmap2 = null;
    private Bitmap bitmap3 = null;
    private Bitmap bitmap4 = null;
    private Bitmap bitmap5 = null;
    private Bitmap bitmap6 = null;
    private Bitmap bitmap7 = null;
    private Bitmap bitmap8 = null;
    private Bitmap bitmap9 = null;
    private Bitmap bitmap10 = null;
    private Bitmap bitmap11 = null;
    private Bitmap bitmap12 = null;
```

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private Bitmap bitmap13 = null;
private Bitmap bitmap14 = null;
private Bitmap bitmap15 = null;
private Bitmap bitmap16 = null;
private Bitmap bitmap17 = null;
private Bitmap bitmap18 = null;
private Bitmap bitmap19 = null;
private Bitmap bitmap20 = null;
private Bitmap bitmap21 = null;
private Bitmap bitmap22 = null;
private Bitmap bitmap23 = null;
private Bitmap bitmap24 = null;
private Bitmap bitmap25 = null;
private Bitmap bitmap26 = null;
private Bitmap bitmap27 = null;
private Bitmap bitmap28 = null;
private Bitmap bitmap29 = null;
private Bitmap bitmap30 = null;
private Bitmap bitmap31 = null;
private Bitmap bitmap32 = null;
private Bitmap bitmap33 = null;
private Bitmap bitmap34 = null;
private Bitmap bitmap35 = null;
private Bitmap bitmap36 = null;
private Bitmap bitmap37 = null;
private Bitmap bitmap38 = null;
private Bitmap bitmap39 = null;
private Bitmap bitmap40 = null;
private Bitmap bitmap41 = null;
private Bitmap bitmap42 = null;
private Bitmap bitmap43 = null;
private Bitmap bitmap44 = null;
private Bitmap bitmap45 = null;
private Bitmap bitmap46 = null;
private Bitmap bitmap47 = null;
private Bitmap bitmap48 = null;
```

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private Bitmap bitmap49 = null;
private Bitmap bitmap50 = null;
private Bitmap bitmap51 = null;
private Bitmap bitmap52 = null;

int ct=0;      //実験回数のカウンター
int r;         //トランプカード識別子（乱数）
int d=0;       //３の倍数のカードを引いたカウンター
int flag=0;        //自動識別子
int syoki=0;   //初期化識別子

int width;
int height;

public MyToramp2(Context context) {
    super(context);
    init(context);
}

public MyToramp2(Context context, AttributeSet attrs) {
    super(context,attrs);
    init(context);
}

public MyToramp2(Context context, AttributeSet attrs,int defStyle) {
    super(context,attrs,defStyle);
    init(context);
}

@Override
protected void onDraw(Canvas canvas) {
    // TODO 自動生成されたメソッド・スタブ

    float a=0;
    float b=0;
    int p=95;
```

```
        super.onDraw(canvas);
        canvas.drawColor(Color.WHITE);
        Paint paint = new Paint();
        paint.setColor(Color.BLUE);
        paint.setAlpha(50);
        canvas.drawRect((getWidth()/2-360)+10,(getHeight()/2-600)+10,(getWidth()/2-
360)+710,(getHeight()/2-600)+1190,paint);

        paint.setAlpha(10000);
        paint.setColor(Color.BLUE);

        for (int i=0;i<2;i++) {
            canvas.drawLine((getWidth()/2-360)+10+i,(getHeight()/2-600)+10+i,(getWidth()/2-
360)+10+i,(getHeight()/2-600)+1190-i,paint);
            canvas.drawLine((getWidth()/2-360)+10+i,(getHeight()/2-600)+1190-i,(getWidth()/2-
360)+710-i,(getHeight()/2-600)+1190-i,paint);
            canvas.drawLine((getWidth()/2-360)+710-i,(getHeight()/2-600)+1190-i,(getWidth()/2-
360)+710-i,(getHeight()/2-600)+10+i,paint);
            canvas.drawLine((getWidth()/2-360)+710-i,(getHeight()/2-600)+10+i,(getWidth()/2-
360)+10+i,(getHeight()/2-600)+10+i,paint);
        }
        paint.setColor(Color.BLUE);
        paint.setTextSize(45.0f);
        canvas.drawText("【３の倍数のトランプカード】", (getWidth()/2-360)+100-36+10-15,
(getHeight()/2-600)+80, paint);

        if (MainActivity.ritsu != 0) {
            a=(float)1.0*320/MainActivity.ritsu;    //---------------------------＜画像の拡
大・縮小の横の倍率を指定する＞
            b=(float)1.0*320/MainActivity.ritsu;    //---------------------------  ＜画像の拡
大・縮小の縦の倍率を指定する＞
        }
        else {
            a=(float) 1.0;
            b=(float) 1.0;
```

```
}

Matrix Mat = new Matrix(); //--------------------***
Mat.postScale(a, b);   //-------------------------***

Bitmap bitmap101 = Bitmap.createBitmap(    //---------***
        bitmap1,0,0,    //-------------------------***
        bitmap1.getWidth(),     //---------------------***
        bitmap1.getHeight(),    //-------------------***
        Mat,true    //-----------------------------***
); //-----------------------------------***

Bitmap bitmap102 = Bitmap.createBitmap(    //---------***
        bitmap2,0,0,    //-------------------------***
        bitmap2.getWidth(),     //---------------------***
        bitmap2.getHeight(),    //-------------------***
        Mat,true    //-----------------------------***
); //-----------------------------------***

Bitmap bitmap103 = Bitmap.createBitmap(    //---------***
        bitmap3,0,0,    //-------------------------***
        bitmap3.getWidth(),     //---------------------***
        bitmap3.getHeight(),    //-------------------***
        Mat,true    //-----------------------------***
); //-----------------------------------***

Bitmap bitmap104 = Bitmap.createBitmap(    //---------***
        bitmap4,0,0,    //-------------------------***
        bitmap4.getWidth(),     //---------------------***
        bitmap4.getHeight(),    //-------------------***
        Mat,true    //-----------------------------***
); //-----------------------------------***

Bitmap bitmap105 = Bitmap.createBitmap(    //---------***
        bitmap5,0,0,    //-------------------------***
        bitmap5.getWidth(),     //---------------------***
```

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        bitmap5.getHeight(),    //----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap106 = Bitmap.createBitmap(    //---------***
        bitmap6,0,0,    //------------------------***
        bitmap6.getWidth(),    //---------------------***
        bitmap6.getHeight(),    //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap107 = Bitmap.createBitmap(    //---------***
        bitmap7,0,0,    //------------------------***
        bitmap7.getWidth(),    //---------------------***
        bitmap7.getHeight(),    //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap108 = Bitmap.createBitmap(    //---------***
        bitmap8,0,0,    //------------------------***
        bitmap8.getWidth(),    //---------------------***
        bitmap8.getHeight(),    //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap109 = Bitmap.createBitmap(    //---------***
        bitmap9,0,0,    //------------------------***
        bitmap9.getWidth(),    //---------------------***
        bitmap9.getHeight(),    //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap110 = Bitmap.createBitmap(    //---------***
        bitmap10,0,0,    //------------------------***
        bitmap10.getWidth(),    //---------------------***
        bitmap10.getHeight(),    //-----------------***
```

```
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap111 = Bitmap.createBitmap(    //---------***
        bitmap11,0,0,   //-------------------------***
        bitmap11.getWidth(),    //--------------------***
        bitmap11.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap112 = Bitmap.createBitmap(    //---------***
        bitmap12,0,0,   //-------------------------***
        bitmap12.getWidth(),    //--------------------***
        bitmap12.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap113 = Bitmap.createBitmap(    //---------***
        bitmap13,0,0,   //-------------------------***
        bitmap13.getWidth(),    //--------------------***
        bitmap13.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap114 = Bitmap.createBitmap(    //---------***
        bitmap14,0,0,   //-------------------------***
        bitmap14.getWidth(),    //--------------------***
        bitmap14.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap115 = Bitmap.createBitmap(    //---------***
        bitmap15,0,0,   //-------------------------***
        bitmap15.getWidth(),    //--------------------***
        bitmap15.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
```

```
); //-----------------------------------***

Bitmap bitmap116 = Bitmap.createBitmap(    //---------***
        bitmap16,0,0,  //-------------------------***
        bitmap16.getWidth(),   //---------------------***
        bitmap16.getHeight(),  //-----------------***
        Mat,true   //-----------------------------***
); //-----------------------------------***

Bitmap bitmap117 = Bitmap.createBitmap(    //---------***
        bitmap17,0,0,  //-------------------------***
        bitmap17.getWidth(),   //---------------------***
        bitmap17.getHeight(),  //-----------------***
        Mat,true   //-----------------------------***
); //-----------------------------------***

Bitmap bitmap118 = Bitmap.createBitmap(    //---------***
        bitmap18,0,0,  //-------------------------***
        bitmap18.getWidth(),   //---------------------***
        bitmap18.getHeight(),  //-----------------***
        Mat,true   //-----------------------------***
); //-----------------------------------***

Bitmap bitmap119 = Bitmap.createBitmap(    //---------***
        bitmap19,0,0,  //-------------------------***
        bitmap19.getWidth(),   //---------------------***
        bitmap19.getHeight(),  //-----------------***
        Mat,true   //-----------------------------***
); //-----------------------------------***

Bitmap bitmap120 = Bitmap.createBitmap(    //---------***
        bitmap20,0,0,  //-------------------------***
        bitmap20.getWidth(),   //---------------------***
        bitmap20.getHeight(),  //-----------------***
        Mat,true   //-----------------------------***
); //-----------------------------------***
```

```
Bitmap bitmap121 = Bitmap.createBitmap(     //--------***
        bitmap21,0,0,   //----------------------***
        bitmap21.getWidth(),    //--------------------***
        bitmap21.getHeight(),   //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap122 = Bitmap.createBitmap(     //--------***
        bitmap22,0,0,   //----------------------***
        bitmap22.getWidth(),    //--------------------***
        bitmap22.getHeight(),   //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap123 = Bitmap.createBitmap(     //--------***
        bitmap23,0,0,   //----------------------***
        bitmap23.getWidth(),    //--------------------***
        bitmap23.getHeight(),   //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap124 = Bitmap.createBitmap(     //--------***
        bitmap24,0,0,   //----------------------***
        bitmap24.getWidth(),    //--------------------***
        bitmap24.getHeight(),   //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***

Bitmap bitmap125 = Bitmap.createBitmap(     //--------***
        bitmap25,0,0,   //----------------------***
        bitmap25.getWidth(),    //--------------------***
        bitmap25.getHeight(),   //-----------------***
        Mat,true    //----------------------------***
); //-----------------------------------***
```

```
Bitmap bitmap126 = Bitmap.createBitmap(     //---------***
        bitmap26,0,0,   //-----------------------***
        bitmap26.getWidth(),    //-------------------***
        bitmap26.getHeight(),   //-----------------***
        Mat,true    //---------------------------***
); //-----------------------------------***

Bitmap bitmap127 = Bitmap.createBitmap(     //---------***
        bitmap27,0,0,   //-----------------------***
        bitmap27.getWidth(),    //-------------------***
        bitmap27.getHeight(),   //-----------------***
        Mat,true    //---------------------------***
); //-----------------------------------***

Bitmap bitmap128 = Bitmap.createBitmap(     //---------***
        bitmap28,0,0,   //-----------------------***
        bitmap28.getWidth(),    //-------------------***
        bitmap28.getHeight(),   //-----------------***
        Mat,true    //---------------------------***
); //-----------------------------------***

Bitmap bitmap129 = Bitmap.createBitmap(     //---------***
        bitmap29,0,0,   //-----------------------***
        bitmap29.getWidth(),    //-------------------***
        bitmap29.getHeight(),   //-----------------***
        Mat,true    //---------------------------***
); //-----------------------------------***

Bitmap bitmap130 = Bitmap.createBitmap(     //---------***
        bitmap30,0,0,   //-----------------------***
        bitmap30.getWidth(),    //-------------------***
        bitmap30.getHeight(),   //-----------------***
        Mat,true    //---------------------------***
); //-----------------------------------***

Bitmap bitmap131 = Bitmap.createBitmap(     //---------***
```

```
        bitmap31,0,0,   //------------------------***
        bitmap31.getWidth(),    //---------------------***
        bitmap31.getHeight(),   //-----------------***
        Mat,true    //-----------------------------***
); //-------------------------------------***

Bitmap bitmap132 = Bitmap.createBitmap(     //---------***
        bitmap32,0,0,   //------------------------***
        bitmap32.getWidth(),    //---------------------***
        bitmap32.getHeight(),   //-----------------***
        Mat,true    //-----------------------------***
); //-------------------------------------***

Bitmap bitmap133 = Bitmap.createBitmap(     //---------***
        bitmap33,0,0,   //------------------------***
        bitmap33.getWidth(),    //---------------------***
        bitmap33.getHeight(),   //-----------------***
        Mat,true    //-----------------------------***
); //-------------------------------------***

Bitmap bitmap134 = Bitmap.createBitmap(     //---------***
        bitmap34,0,0,   //------------------------***
        bitmap34.getWidth(),    //---------------------***
        bitmap34.getHeight(),   //-----------------***
        Mat,true    //-----------------------------***
); //-------------------------------------***

Bitmap bitmap135 = Bitmap.createBitmap(     //---------***
        bitmap35,0,0,   //------------------------***
        bitmap35.getWidth(),    //---------------------***
        bitmap35.getHeight(),   //-----------------***
        Mat,true    //-----------------------------***
); //-------------------------------------***

Bitmap bitmap136 = Bitmap.createBitmap(     //---------***
        bitmap36,0,0,   //------------------------***
```

```
        bitmap36.getWidth(),    //--------------------***
        bitmap36.getHeight(),   //--------------------***
        Mat,true    //--------------------------***
); //-----------------------------------***

Bitmap bitmap137 = Bitmap.createBitmap(    //---------***
        bitmap37,0,0,   //--------------------------***
        bitmap37.getWidth(),    //--------------------***
        bitmap37.getHeight(),   //--------------------***
        Mat,true    //--------------------------***
); //-----------------------------------***

Bitmap bitmap138 = Bitmap.createBitmap(    //---------***
        bitmap38,0,0,   //--------------------------***
        bitmap38.getWidth(),    //--------------------***
        bitmap38.getHeight(),   //--------------------***
        Mat,true    //--------------------------***
); //-----------------------------------***

Bitmap bitmap139 = Bitmap.createBitmap(    //---------***
        bitmap39,0,0,   //--------------------------***
        bitmap39.getWidth(),    //--------------------***
        bitmap39.getHeight(),   //--------------------***
        Mat,true    //--------------------------***
); //-----------------------------------***

Bitmap bitmap140 = Bitmap.createBitmap(    //---------***
        bitmap40,0,0,   //--------------------------***
        bitmap40.getWidth(),    //--------------------***
        bitmap40.getHeight(),   //--------------------***
        Mat,true    //--------------------------***
); //-----------------------------------***

Bitmap bitmap141 = Bitmap.createBitmap(    //---------***
        bitmap41,0,0,   //--------------------------***
        bitmap41.getWidth(),    //--------------------***
```

```
        bitmap41.getHeight(),  //----------------***
        Mat,true   //---------------------------***
); //-----------------------------------***

Bitmap bitmap142 = Bitmap.createBitmap(    //---------***
        bitmap42,0,0,  //------------------------***
        bitmap42.getWidth(),   //--------------------***
        bitmap42.getHeight(),  //----------------***
        Mat,true   //---------------------------***
); //-----------------------------------***

Bitmap bitmap143 = Bitmap.createBitmap(    //---------***
        bitmap43,0,0,  //------------------------***
        bitmap43.getWidth(),   //--------------------***
        bitmap43.getHeight(),  //----------------***
        Mat,true   //---------------------------***
); //-----------------------------------***

Bitmap bitmap144 = Bitmap.createBitmap(    //---------***
        bitmap44,0,0,  //------------------------***
        bitmap44.getWidth(),   //--------------------***
        bitmap44.getHeight(),  //----------------***
        Mat,true   //---------------------------***
); //-----------------------------------***

Bitmap bitmap145 = Bitmap.createBitmap(    //---------***
        bitmap45,0,0,  //------------------------***
        bitmap45.getWidth(),   //--------------------***
        bitmap45.getHeight(),  //----------------***
        Mat,true   //---------------------------***
); //-----------------------------------***

Bitmap bitmap146 = Bitmap.createBitmap(    //---------***
        bitmap46,0,0,  //------------------------***
        bitmap46.getWidth(),   //--------------------***
        bitmap46.getHeight(),  //----------------***
```

```
        Mat,true    //----------------------------***
); //-------------------------------------***

Bitmap bitmap147 = Bitmap.createBitmap(    //---------***
        bitmap47,0,0,   //-------------------------***
        bitmap47.getWidth(),    //--------------------***
        bitmap47.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-------------------------------------***

Bitmap bitmap148 = Bitmap.createBitmap(    //---------***
        bitmap48,0,0,   //-------------------------***
        bitmap48.getWidth(),    //--------------------***
        bitmap48.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-------------------------------------***

Bitmap bitmap149 = Bitmap.createBitmap(    //---------***
        bitmap49,0,0,   //-------------------------***
        bitmap49.getWidth(),    //--------------------***
        bitmap49.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-------------------------------------***

Bitmap bitmap150 = Bitmap.createBitmap(    //---------***
        bitmap50,0,0,   //-------------------------***
        bitmap50.getWidth(),    //--------------------***
        bitmap50.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
); //-------------------------------------***

Bitmap bitmap151 = Bitmap.createBitmap(    //---------***
        bitmap51,0,0,   //-------------------------***
        bitmap51.getWidth(),    //--------------------***
        bitmap51.getHeight(),   //-------------------***
        Mat,true    //----------------------------***
```

```
        ); //-----------------------------------***

        Bitmap bitmap152 = Bitmap.createBitmap(     //---------***
                bitmap52,0,0,   //-------------------------***
                bitmap52.getWidth(),    //---------------------***
                bitmap52.getHeight(),   //-----------------***
                Mat,true    //---------------------------***
        ); //-----------------------------------***


        if (bitmap101 != null && bitmap102 != null && bitmap103 != null && bitmap104 != null
&& bitmap105 != null && bitmap106 != null && bitmap107 != null && bitmap108 != null &&
bitmap109 != null && bitmap110 != null && bitmap111 != null && bitmap112 != null &&
bitmap113 != null && bitmap114 != null && bitmap115 != null && bitmap116 != null &&
bitmap117 != null && bitmap118 != null && bitmap119 != null && bitmap120 != null &&
bitmap121 != null && bitmap122 != null && bitmap123 != null && bitmap124 != null &&
bitmap125 != null && bitmap126 != null && bitmap127 != null && bitmap128 != null &&
bitmap129 != null && bitmap130 != null && bitmap131 != null && bitmap132 != null &&
bitmap133 != null && bitmap134 != null && bitmap135 != null && bitmap136 != null &&
bitmap137 != null && bitmap138 != null && bitmap139 != null && bitmap140 != null &&
bitmap141 != null && bitmap142 != null && bitmap143 != null && bitmap144 != null &&
bitmap145 != null && bitmap146 != null && bitmap147 != null && bitmap148 != null &&
bitmap149 != null && bitmap150 != null && bitmap151 != null && bitmap152 != null) {

            ct++;
            r=(int) (1+52*Math.random());

            if (r==1) {
                canvas.drawBitmap(bitmap101,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==2) {
                canvas.drawBitmap(bitmap102,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==3) {
```

```
                canvas.drawBitmap(bitmap103, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==4) {
                canvas.drawBitmap(bitmap104, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==5) {
                canvas.drawBitmap(bitmap105, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==6) {
                canvas.drawBitmap(bitmap106, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==7) {
                canvas.drawBitmap(bitmap107, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==8) {
                canvas.drawBitmap(bitmap108, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==9) {
                canvas.drawBitmap(bitmap109, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==10) {
                canvas.drawBitmap(bitmap110, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==11) {
                canvas.drawBitmap(bitmap111, (getWidth()/2-360)+210-10+p, (getHeight()/2-
```

```
600)+150-10,paint);
            }
            else if (r==12) {
                canvas.drawBitmap(bitmap112,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
                d++;
            }
            else if (r==13) {
                canvas.drawBitmap(bitmap113,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==14) {
                canvas.drawBitmap(bitmap114,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==15) {
                canvas.drawBitmap(bitmap115,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==16) {
                canvas.drawBitmap(bitmap116,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
                d++;
            }
            else if (r==17) {
                canvas.drawBitmap(bitmap117,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==18) {
                canvas.drawBitmap(bitmap118,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==19) {
                canvas.drawBitmap(bitmap119,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
                d++;
```

```
            }
            else if (r==20) {
                canvas.drawBitmap(bitmap120, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==21) {
                canvas.drawBitmap(bitmap121, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==22) {
                canvas.drawBitmap(bitmap122, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==23) {
                canvas.drawBitmap(bitmap123, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==24) {
                canvas.drawBitmap(bitmap124, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==25) {
                canvas.drawBitmap(bitmap125, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==26) {
                canvas.drawBitmap(bitmap126, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==27) {
                canvas.drawBitmap(bitmap127, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==28) {
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```
                canvas.drawBitmap(bitmap128, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==29) {
                canvas.drawBitmap(bitmap129, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==30) {
                canvas.drawBitmap(bitmap130, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==31) {
                canvas.drawBitmap(bitmap131, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==32) {
                canvas.drawBitmap(bitmap132, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==33) {
                canvas.drawBitmap(bitmap133, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==34) {
                canvas.drawBitmap(bitmap134, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==35) {
                canvas.drawBitmap(bitmap135, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==36) {
                canvas.drawBitmap(bitmap136, (getWidth()/2-360)+210-10+p, (getHeight()/2-
```

```
600)+150-10,paint);
            }
            else if (r==37) {
                canvas.drawBitmap(bitmap137,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==38) {
                canvas.drawBitmap(bitmap138,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
                d++;
            }
            else if (r==39) {
                canvas.drawBitmap(bitmap139,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==40) {
                canvas.drawBitmap(bitmap140,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==41) {
                canvas.drawBitmap(bitmap141,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==42) {
                canvas.drawBitmap(bitmap142,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
                d++;
            }
            else if (r==43) {
                canvas.drawBitmap(bitmap143,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
            else if (r==44) {
                canvas.drawBitmap(bitmap144,(getWidth()/2-360)+210-10+p,(getHeight()/2-
600)+150-10,paint);
            }
```

```
            else if (r==45) {
                canvas.drawBitmap(bitmap145, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==46) {
                canvas.drawBitmap(bitmap146, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==47) {
                canvas.drawBitmap(bitmap147, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==48) {
                canvas.drawBitmap(bitmap148, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==49) {
                canvas.drawBitmap(bitmap149, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==50) {
                canvas.drawBitmap(bitmap150, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
            else if (r==51) {
                canvas.drawBitmap(bitmap151, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
                d++;
            }
            else if (r==52) {
                canvas.drawBitmap(bitmap152, (getWidth()/2-360)+210-10+p, (getHeight()/2-
600)+150-10, paint);
            }
        }
```

```
        paint.setColor(Color.BLACK);
        paint.setTextSize(40.0f);
        canvas.drawText("引いた３の倍数のカードの枚数 "+d, (getWidth()/2-360)+40,
(getHeight()/2-600)+400, paint);
        canvas.drawText("引いた全てのカードの枚数 "+ct, (getWidth()/2-360)+40, (getHeight()/2-
600)+450, paint);
        paint.setColor(Color.BLUE);
        canvas.drawText("３の倍数のカードを引いた割合", (getWidth()/2-360)+30, (getHeight()/2-
600)+510+10, paint);
        canvas.drawText(" ＝ "+((float)(d)/(float)(ct)), (getWidth()/2-360)+240+150,
(getHeight()/2-600)+550+10, paint);

        paint.setColor(Color.BLACK);
        canvas.drawText("３の倍数のカードを引く理論上の割合 ", (getWidth()/2-360)+30,
(getHeight()/2-600)+610+20, paint);
        canvas.drawText("＝ 16/52 ＝ 0.30769231", (getWidth()/2-360)+30+55+150,
(getHeight()/2-600)+650+20, paint);

        paint.setColor(Color.BLACK);
        paint.setTextSize(30.0f);
        canvas.drawText("■３の倍数のカードを引いた割合が 0.30769231", (getWidth()/2-360)+50,
(getHeight()/2-600)+950-100, paint);
        canvas.drawText("  に近づく様子を観察してみましょう。", (getWidth()/2-360)+50,
(getHeight()/2-600)+950-100+30, paint);

        canvas.drawText("※ 画面を５回タッチすると自動になります。", (getWidth()/2-360)+50,
(getHeight()/2-600)+950, paint);
        canvas.drawText("※ 画面をタッチすると自動が止まります。", (getWidth()/2-360)+50,
(getHeight()/2-600)+990, paint);
        canvas.drawText("※ 更に画面をタッチすると初期化されます。", (getWidth()/2-360)+50,
(getHeight()/2-600)+1030, paint);
        canvas.drawText("※ 画面が暗くなったらタイトルバーをタッチ！", (getWidth()/2-360)+50,
(getHeight()/2-600)+1070, paint);

        paint.setColor(Color.BLUE);
```

```
        paint.setTextSize(30.0f);
        canvas.drawText("Copyright(C).K.Niwa 2021.2.14", (getWidth()/2-360)+150+5,
(getHeight()/2-600)+1130, paint);

        if (flag>=5) {
            invalidate();
        }
    }

    private void init(Context context) {
        Resources res = context.getResources();
        bitmap1 = BitmapFactory.decodeResource(res, R.drawable.d01);
        bitmap2 = BitmapFactory.decodeResource(res, R.drawable.d02);
        bitmap3 = BitmapFactory.decodeResource(res, R.drawable.d03);
        bitmap4 = BitmapFactory.decodeResource(res, R.drawable.d04);
        bitmap5 = BitmapFactory.decodeResource(res, R.drawable.d05);
        bitmap6 = BitmapFactory.decodeResource(res, R.drawable.d06);
        bitmap7 = BitmapFactory.decodeResource(res, R.drawable.d07);
        bitmap8 = BitmapFactory.decodeResource(res, R.drawable.d08);
        bitmap9 = BitmapFactory.decodeResource(res, R.drawable.d09);
        bitmap10 = BitmapFactory.decodeResource(res, R.drawable.d10);
        bitmap11 = BitmapFactory.decodeResource(res, R.drawable.d11);
        bitmap12 = BitmapFactory.decodeResource(res, R.drawable.d12);
        bitmap13 = BitmapFactory.decodeResource(res, R.drawable.d13);

        bitmap14 = BitmapFactory.decodeResource(res, R.drawable.h01);
        bitmap15 = BitmapFactory.decodeResource(res, R.drawable.h02);
        bitmap16 = BitmapFactory.decodeResource(res, R.drawable.h03);
        bitmap17 = BitmapFactory.decodeResource(res, R.drawable.h04);
        bitmap18 = BitmapFactory.decodeResource(res, R.drawable.h05);
        bitmap19 = BitmapFactory.decodeResource(res, R.drawable.h06);
        bitmap20 = BitmapFactory.decodeResource(res, R.drawable.h07);
        bitmap21 = BitmapFactory.decodeResource(res, R.drawable.h08);
        bitmap22 = BitmapFactory.decodeResource(res, R.drawable.h09);
        bitmap23 = BitmapFactory.decodeResource(res, R.drawable.h10);
        bitmap24 = BitmapFactory.decodeResource(res, R.drawable.h11);
```

```
        bitmap25 = BitmapFactory.decodeResource(res, R.drawable.h12);
        bitmap26 = BitmapFactory.decodeResource(res, R.drawable.h13);

        bitmap27 = BitmapFactory.decodeResource(res, R.drawable.m01);
        bitmap28 = BitmapFactory.decodeResource(res, R.drawable.m02);
        bitmap29 = BitmapFactory.decodeResource(res, R.drawable.m03);
        bitmap30 = BitmapFactory.decodeResource(res, R.drawable.m04);
        bitmap31 = BitmapFactory.decodeResource(res, R.drawable.m05);
        bitmap32 = BitmapFactory.decodeResource(res, R.drawable.m06);
        bitmap33 = BitmapFactory.decodeResource(res, R.drawable.m07);
        bitmap34 = BitmapFactory.decodeResource(res, R.drawable.m08);
        bitmap35 = BitmapFactory.decodeResource(res, R.drawable.m09);
        bitmap36 = BitmapFactory.decodeResource(res, R.drawable.m10);
        bitmap37 = BitmapFactory.decodeResource(res, R.drawable.m11);
        bitmap38 = BitmapFactory.decodeResource(res, R.drawable.m12);
        bitmap39 = BitmapFactory.decodeResource(res, R.drawable.m13);

        bitmap40 = BitmapFactory.decodeResource(res, R.drawable.s01);
        bitmap41 = BitmapFactory.decodeResource(res, R.drawable.s02);
        bitmap42 = BitmapFactory.decodeResource(res, R.drawable.s03);
        bitmap43 = BitmapFactory.decodeResource(res, R.drawable.s04);
        bitmap44 = BitmapFactory.decodeResource(res, R.drawable.s05);
        bitmap45 = BitmapFactory.decodeResource(res, R.drawable.s06);
        bitmap46 = BitmapFactory.decodeResource(res, R.drawable.s07);
        bitmap47 = BitmapFactory.decodeResource(res, R.drawable.s08);
        bitmap48 = BitmapFactory.decodeResource(res, R.drawable.s09);
        bitmap49 = BitmapFactory.decodeResource(res, R.drawable.s10);
        bitmap50 = BitmapFactory.decodeResource(res, R.drawable.s11);
        bitmap51 = BitmapFactory.decodeResource(res, R.drawable.s12);
        bitmap52 = BitmapFactory.decodeResource(res, R.drawable.s13);

        //WindowManager wm = (WindowManager)context.getSystemService(Context.WINDOW_SERVICE);
        //Display disp = wm.getDefaultDisplay();
        //width = disp.getWidth();
        //height = disp.getHeight();
}
```

```
    @Override
    public boolean onTouchEvent(MotionEvent event) {
        flag = flag+1;
        flag = flag % 6;

        syoki=syoki+1;
        if (syoki>6) {
            ct=0;      //実験回数カウンター
            d=0;       //３の倍数のカードを引いたカウンター
            flag=0;        //自動識別子
            syoki=0;   //初期化識別子
        }

        invalidate();
        return false;
    }
}
```

[2]activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
```

```
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <jp.kiyo.wuena.mytoramp2.MyToramp2
        android:id="@+id/myfview1"
        android:layout_height="match_parent"
        android:layout_width="match_parent"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

[3]MainActivity.java

```
/*
-------------------------------------
        ３の倍数のトランプカード
         Android 4.1 (Jelly Bean)
     Copyright(C) K.Niwa 2021.2.14
-------------------------------------
*/

package jp.kiyo.wuena.mytoramp2;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.DisplayMetrics;     //<画像の拡大・縮小に必要なライブラリ>
import android.app.Activity;
import android.view.Menu;

public class MainActivity extends AppCompatActivity {

    static int ritsu;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```
        DisplayMetrics metrics = new DisplayMetrics(); //<端末の情報を取得する>
        getWindowManager().getDefaultDisplay().getMetrics(metrics);
        StringBuilder buffer = new StringBuilder();
        buffer.append("densityDpi（ドット数／インチ）:" + String.valueOf(metrics.densityDpi)
+ "¥n");
        ritsu=metrics.densityDpi;
    }
}
```