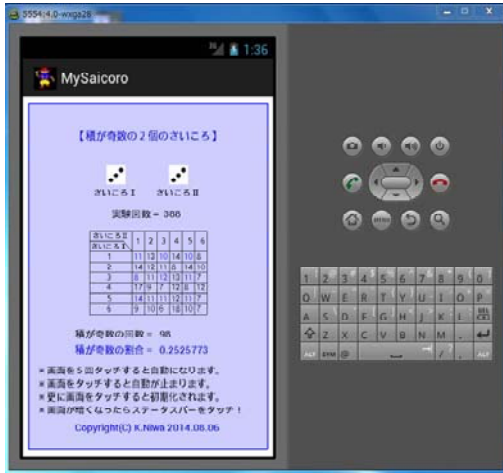


```
//-----
//
//          積が奇数の2個のさいころ
//          Ver6
//          Copyright(C) K.Niwa 2014.08.06
//-----
```



【エミュレータ画面例】



【スマートフォン画面例】
(Android 4.0)

【アプリの概要】

2個のさいころを同時に投げたときの目の出方が観察できます。
 2個のさいころの目の積が奇数になる割合はどれだけでしょうか。
 2個のさいころを同時に投げる実験を何度もおこなった場合、実験回数を多くすると、2個のさいころの目の積が奇数になる割合は、実験回数が少ないときに比べてどのようなことが言えるのでしょうか。
 また、2個のさいころの目の積が奇数になる確率を数学的に求めてみましょう。

[1] Saicoro.java

```
package jp.seitoku.saicoro;

import android.content.Context;
import android.content.res.Resources; //画像用
import android.graphics.*;
import android.util.AttributeSet;
import android.view.*; //view.View → view.* に変更

public class Saicoro 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;

    int flag=0;
    int syoki=0;
    int r1,r2;
    int ct1=0;
    int d11=0,d21=0,d31=0,d41=0,d51=0,d61=0; //度数 d31とはさいころ1の目が3で、さいころ2の目が1

    //自動識別子
    //初期化識別子
    //さいころ1、
    //実験回数
    //さいころ2の目の識別子(乱数)
```

の度数

```
int d12=0, d22=0, d32=0, d42=0, d52=0, d62=0;
int d13=0, d23=0, d33=0, d43=0, d53=0, d63=0;
int d14=0, d24=0, d34=0, d44=0, d54=0, d64=0;
int d15=0, d25=0, d35=0, d45=0, d55=0, d65=0;
int d16=0, d26=0, d36=0, d46=0, d56=0, d66=0;
int d=0;
float ritu;
```

```
//積が奇数の度数
//積が奇数の
```

割合

```
int yy, xx;
```

```
//枠に使用し
```

たループカウンター

```
int width;
int height;
```

```
public Saicoro(Context context, AttributeSet attrs, int defStyle) {
    super(context, attrs, defStyle);
    // TODO 自動生成されたコンストラクター・スタブ
    init(context);
}
```

```
public Saicoro(Context context, AttributeSet attrs) {
    super(context, attrs);
    // TODO 自動生成されたコンストラクター・スタブ
    init(context);
}
```

```
public Saicoro(Context context) {
    super(context);
    // TODO 自動生成されたコンストラクター・スタブ
    init(context);
}
```

```
private void init(Context context) {
    Resources res = context.getResources();
    bitmap1 = BitmapFactory.decodeResource(res, R.drawable.sai1);
    bitmap2 = BitmapFactory.decodeResource(res, R.drawable.sai2);
    bitmap3 = BitmapFactory.decodeResource(res, R.drawable.sai3);
    bitmap4 = BitmapFactory.decodeResource(res, R.drawable.sai4);
    bitmap5 = BitmapFactory.decodeResource(res, R.drawable.sai5);
    bitmap6 = BitmapFactory.decodeResource(res, R.drawable.sai6);

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

@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;
```

```
super.onDraw(canvas);
canvas.drawColor(Color.WHITE);
Paint paint = new Paint();
paint.setColor(Color.BLUE);
paint.setAlpha(50);
canvas.drawRect((getWidth()/2-240)+10, (getHeight()/2-343)+10, (getWidth()/2-240)+470, (getHeight()/2-343)+675, paint);
```

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

```
for (int i=0;i<2;i++) {
    canvas.drawLine((getWidth()/2-240)+10+i, (getHeight()/2-343)+10+i, (getWidth()/2-240
```

```

0)+10+i, (getHeight()/2-343)+675-i, paint);
        canvas.drawLine((getWidth()/2-240)+10+i, (getHeight()/2-343)+675-i, (getWidth()/2-2
40)+470-i, (getHeight()/2-343)+675-i, paint);
        canvas.drawLine((getWidth()/2-240)+470-i, (getHeight()/2-343)+675-i, (getWidth()/2-
240)+470-i, (getHeight()/2-343)+10+i, paint);
        canvas.drawLine((getWidth()/2-240)+470-i, (getHeight()/2-343)+10+i, (getWidth()/2-2
40)+10+i, (getHeight()/2-343)+10+i, paint);
    }

    paint.setColor(Color.BLUE);
    paint.setTextSize(20.0f);
    canvas.drawText("【積が奇数の2個のさいころ】", (getWidth()/2-240)+120-20, (getHeight()/2
-343)+80, paint);

    paint.setColor(Color.BLACK);
    paint.setTextSize(17.0f);
    canvas.drawText("さいころⅠ", (getWidth()/2-240)+135, (getHeight()/2-343)+188, paint);
    canvas.drawText("さいころⅡ", (getWidth()/2-240)+255, (getHeight()/2-343)+188, paint);

    if (SaicoroActivity.ritsu != 0) {
        a=(float)0.9*320/SaicoroActivity.ritsu; //----- <画像の
        拡大・縮小の横の倍率を指定する>
        b=(float)0.9*320/SaicoroActivity.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 bitmap11 = Bitmap.createBitmap( //-----***
        bitmap1, 0, 0, //-----***
        bitmap1.getWidth(), //-----***
        bitmap1.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

    Bitmap bitmap22 = Bitmap.createBitmap( //-----***
        bitmap2, 0, 0, //-----***
        bitmap2.getWidth(), //-----***
        bitmap2.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

    Bitmap bitmap33 = Bitmap.createBitmap( //-----***
        bitmap3, 0, 0, //-----***
        bitmap3.getWidth(), //-----***
        bitmap3.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

    Bitmap bitmap44 = Bitmap.createBitmap( //-----***
        bitmap4, 0, 0, //-----***
        bitmap4.getWidth(), //-----***
        bitmap4.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

    Bitmap bitmap55 = Bitmap.createBitmap( //-----***
        bitmap5, 0, 0, //-----***
        bitmap5.getWidth(), //-----***
        bitmap5.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

    Bitmap bitmap66 = Bitmap.createBitmap( //-----***

```

```

        bitmap6, 0, 0, //-----***
        bitmap6.getWidth(), //-----***
        bitmap6.getHeight(), //-----***
        Mat, true //-----***
    ); //-----***

```

```

        if (bitmap11 != null && bitmap22 != null && bitmap33 != null && bitmap44 != null && bitma
p55 != null && bitmap66 != null) {

            ctl++;

            r1=(int) (1+6*Math.random());
            if (r1==1) {
                canvas.drawBitmap(bitmap11, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }
            else if (r1==2) {
                canvas.drawBitmap(bitmap22, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }
            else if (r1==3) {
                canvas.drawBitmap(bitmap33, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }
            else if (r1==4) {
                canvas.drawBitmap(bitmap44, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }
            else if (r1==5) {
                canvas.drawBitmap(bitmap55, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }
            else if (r1==6) {
                canvas.drawBitmap(bitmap66, (getWidth()/2-240)+160, (getHeight()/2-343)+1
30, paint);
            }

            r2=(int) (1+6*Math.random());
            if (r2==1) {
                canvas.drawBitmap(bitmap11, (getWidth()/2-240)+280, (getHeight()/2-343)+1
30, paint);
            }
            else if (r2==2) {
                canvas.drawBitmap(bitmap22, (getWidth()/2-240)+280, (getHeight()/2-343)+1
30, paint);
            }
            else if (r2==3) {
                canvas.drawBitmap(bitmap33, (getWidth()/2-240)+280, (getHeight()/2-343)+1
30, paint);
            }
            else if (r2==4) {
                canvas.drawBitmap(bitmap44, (getWidth()/2-240)+280, (getHeight()/2-343)+1
30, paint);
            }
            else if (r2==5) {
                canvas.drawBitmap(bitmap55, (getWidth()/2-240)+280, (getHeight()/2-343)+1
30, paint);
            }
            else if (r2==6) {

```

30, paint);

```
canvas.drawBitmap(bitmap66, (getWidth()/2-240)+280, (getHeight()/2-343)+1
```

```
    }  
    //if (bitmap1 != null && ...  
  
    if (r1==1 && r2==1) {  
        d11++;  
    }  
    else if (r1==2 && r2==1) {  
        d21++;  
    }  
    else if (r1==3 && r2==1) {  
        d31++;  
    }  
    else if (r1==4 && r2==1) {  
        d41++;  
    }  
    else if (r1==5 && r2==1) {  
        d51++;  
    }  
    else if (r1==6 && r2==1) {  
        d61++;  
    }  
    else if (r1==1 && r2==2) {  
        d12++;  
    }  
    else if (r1==2 && r2==2) {  
        d22++;  
    }  
    else if (r1==3 && r2==2) {  
        d32++;  
    }  
    else if (r1==4 && r2==2) {  
        d42++;  
    }  
    else if (r1==5 && r2==2) {  
        d52++;  
    }  
    else if (r1==6 && r2==2) {  
        d62++;  
    }  
    else if (r1==1 && r2==3) {  
        d13++;  
    }  
    else if (r1==2 && r2==3) {  
        d23++;  
    }  
    else if (r1==3 && r2==3) {  
        d33++;  
    }  
    else if (r1==4 && r2==3) {  
        d43++;  
    }  
    else if (r1==5 && r2==3) {  
        d53++;  
    }  
    else if (r1==6 && r2==3) {  
        d63++;  
    }  
    else if (r1==1 && r2==4) {  
        d14++;  
    }  
    else if (r1==2 && r2==4) {  
        d24++;  
    }  
    else if (r1==3 && r2==4) {  
        d34++;  
    }  
}
```

```

    }
    else if (r1==4 && r2==4) {
        d44++;
    }
    else if (r1==5 && r2==4) {
        d54++;
    }
    else if (r1==6 && r2==4) {
        d64++;
    }
    else if (r1==1 && r2==5) {
        d15++;
    }
    else if (r1==2 && r2==5) {
        d25++;
    }
    else if (r1==3 && r2==5) {
        d35++;
    }
    else if (r1==4 && r2==5) {
        d45++;
    }
    else if (r1==5 && r2==5) {
        d55++;
    }
    else if (r1==6 && r2==5) {
        d65++;
    }
    else if (r1==1 && r2==6) {
        d16++;
    }
    else if (r1==2 && r2==6) {
        d26++;
    }
    else if (r1==3 && r2==6) {
        d36++;
    }
    else if (r1==4 && r2==6) {
        d46++;
    }
    else if (r1==5 && r2==6) {
        d56++;
    }
    else if (r1==6 && r2==6) {
        d66++;
    }

    d=d11+d13+d15+d31+d33+d35+d51+d53+d55; //積が奇数の度数
    paint.setColor(Color.BLACK);
    paint.setTextSize(19.0F);
    canvas.drawText("積が奇数の回数 = "+d, (getWidth()/2-240)+100, (getHeight()/2-343)+460,
paint);

    if (ctl != 0) {
        ritu = (float)d/(float)ctl; //積が奇数の割合
        paint.setColor(Color.BLUE);
        paint.setTextSize(19.0F);
        canvas.drawText("積が奇数の割合 = "+ritu, (getWidth()/2-240)+100, (getHeight()/2
-343)+490, paint);
    }

    paint.setColor(Color.BLACK);
    paint.setTextSize(19.0F);
    canvas.drawText("実験回数 = "+ctl, (getWidth()/2-240)+170, (getHeight()/2-343)+230, pain
t);

    //表の枠
    paint.setColor(Color.BLACK);

```

```

        canvas.drawLine((getWidth()/2-240)+128, (getHeight()/2-343)+255, (getWidth()/2-240)+353,
(getHeight()/2-343)+255, paint);
        canvas.drawLine((getWidth()/2-240)+128, (getHeight()/2-343)+275, (getWidth()/2-240)+193,
(getHeight()/2-343)+275, paint);
        canvas.drawLine((getWidth()/2-240)+193, (getHeight()/2-343)+275, (getWidth()/2-240)+209,
(getHeight()/2-343)+295, paint);

        for (yy=335;yy<=455;yy=yy+20) {
            canvas.drawLine((getWidth()/2-240)+128, (getHeight()/2-343)+yy-40, (getWidth()/2-
240)+353, (getHeight()/2-343)+yy-40, paint);
        }
        for (xx=353;xx>208;xx=xx-24) {
            canvas.drawLine((getWidth()/2-240)+xx, (getHeight()/2-343)+255, (getWidth()/2-24
0)+xx, (getHeight()/2-343)+415, paint);
        }
        canvas.drawLine((getWidth()/2-240)+128, (getHeight()/2-343)+255, (getWidth()/2-240)+128,
(getHeight()/2-343)+415, paint);

//表の文字
paint.setTextSize(14.0F);
canvas.drawText("さいころⅡ", (getWidth()/2-240)+133, (getHeight()/2-343)+270, paint);

paint.setTextSize(15.0F);
canvas.drawText(" 1", (getWidth()/2-240)+213, (getHeight()/2-343)+280, paint);
canvas.drawText(" 2", (getWidth()/2-240)+238, (getHeight()/2-343)+280, paint);
canvas.drawText(" 3", (getWidth()/2-240)+263, (getHeight()/2-343)+280, paint);
canvas.drawText(" 4", (getWidth()/2-240)+288, (getHeight()/2-343)+280, paint);
canvas.drawText(" 5", (getWidth()/2-240)+313, (getHeight()/2-343)+280, paint);
canvas.drawText(" 6", (getWidth()/2-240)+338, (getHeight()/2-343)+280, paint);

paint.setTextSize(14.0F);
canvas.drawText("さいころⅠ", (getWidth()/2-240)+130, (getHeight()/2-343)+290, paint);

paint.setTextSize(15.0F);
canvas.drawText(" 1", (getWidth()/2-240)+158, (getHeight()/2-343)+310, paint);
canvas.drawText(" 2", (getWidth()/2-240)+158, (getHeight()/2-343)+330, paint);
canvas.drawText(" 3", (getWidth()/2-240)+158, (getHeight()/2-343)+350, paint);
canvas.drawText(" 4", (getWidth()/2-240)+158, (getHeight()/2-343)+370, paint);
canvas.drawText(" 5", (getWidth()/2-240)+158, (getHeight()/2-343)+390, paint);
canvas.drawText(" 6", (getWidth()/2-240)+158, (getHeight()/2-343)+410, paint);

//表の度数
paint.setTextSize(15.0F);
paint.setColor(Color.BLUE);canvas.drawText(""+d11, (getWidth()/2-240)+213, (getHeight()/2
-343)+310, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d12, (getWidth()/2-240)+237, (getHeight()/
2-343)+310, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d21, (getWidth()/2-240)+213, (getHeight()/
2-343)+330, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d22, (getWidth()/2-240)+237, (getHeight()/
2-343)+330, paint);
paint.setColor(Color.BLUE);canvas.drawText(""+d31, (getWidth()/2-240)+213, (getHeight()/2
-343)+350, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d32, (getWidth()/2-240)+237, (getHeight()/
2-343)+350, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d41, (getWidth()/2-240)+213, (getHeight()/
2-343)+370, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d42, (getWidth()/2-240)+237, (getHeight()/
2-343)+370, paint);
paint.setColor(Color.BLUE);canvas.drawText(""+d51, (getWidth()/2-240)+213, (getHeight()/2
-343)+390, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d52, (getWidth()/2-240)+237, (getHeight()/
2-343)+390, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d61, (getWidth()/2-240)+213, (getHeight()/
2-343)+410, paint);
paint.setColor(Color.BLACK);canvas.drawText(""+d62, (getWidth()/2-240)+237, (getHeight()/
2-343)+410, paint);
paint.setColor(Color.BLUE);canvas.drawText(""+d13, (getWidth()/2-240)+261, (getHeight()/2

```

```

-343)+310, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d14, (getWidth()/2-240)+285, (getHeight()/
2-343)+310, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d23, (getWidth()/2-240)+261, (getHeight()/
2-343)+330, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d24, (getWidth()/2-240)+285, (getHeight()/
2-343)+330, paint);
    paint.setColor(Color. BLUE);canvas.drawText(""+d33, (getWidth()/2-240)+261, (getHeight()/2
-343)+350, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d34, (getWidth()/2-240)+285, (getHeight()/
2-343)+350, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d43, (getWidth()/2-240)+261, (getHeight()/
2-343)+370, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d44, (getWidth()/2-240)+285, (getHeight()/
2-343)+370, paint);
    paint.setColor(Color. BLUE);canvas.drawText(""+d53, (getWidth()/2-240)+261, (getHeight()/2
-343)+390, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d54, (getWidth()/2-240)+285, (getHeight()/
2-343)+390, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d63, (getWidth()/2-240)+261, (getHeight()/
2-343)+410, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d64, (getWidth()/2-240)+285, (getHeight()/
2-343)+410, paint);
    paint.setColor(Color. BLUE);canvas.drawText(""+d15, (getWidth()/2-240)+309, (getHeight()/2
-343)+310, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d16, (getWidth()/2-240)+333, (getHeight()/
2-343)+310, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d25, (getWidth()/2-240)+309, (getHeight()/
2-343)+330, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d26, (getWidth()/2-240)+333, (getHeight()/
2-343)+330, paint);
    paint.setColor(Color. BLUE);canvas.drawText(""+d35, (getWidth()/2-240)+309, (getHeight()/2
-343)+350, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d36, (getWidth()/2-240)+333, (getHeight()/
2-343)+350, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d45, (getWidth()/2-240)+309, (getHeight()/
2-343)+370, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d46, (getWidth()/2-240)+333, (getHeight()/
2-343)+370, paint);
    paint.setColor(Color. BLUE);canvas.drawText(""+d55, (getWidth()/2-240)+309, (getHeight()/2
-343)+390, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d56, (getWidth()/2-240)+333, (getHeight()/
2-343)+390, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d65, (getWidth()/2-240)+309, (getHeight()/
2-343)+410, paint);
    paint.setColor(Color. BLACK);canvas.drawText(""+d66, (getWidth()/2-240)+333, (getHeight()/
2-343)+410, paint);

    paint.setColor(Color. BLACK);
    paint.setTextSize(18.0F);
    canvas.drawText("※ 画面を5回タッチすると自動になります。", (getWidth()/2-240)+50-20, (g
etHeight()/2-343)+530, paint);
    canvas.drawText("※ 画面をタッチすると自動が止まります。", (getWidth()/2-240)+50-20, (get
Height()/2-343)+555, paint);
    canvas.drawText("※ 更に画面をタッチすると初期化されます。", (getWidth()/2-240)+50-20, (g
etHeight()/2-343)+580, paint);
    canvas.drawText("※ 画面が暗くなったらステータスバーをタッチ！", (getWidth()/2-240)+50-2
0, (getHeight()/2-343)+605, paint);

    paint.setColor(Color. BLUE);
    paint.setTextSize(19.0F);
    canvas.drawText("Copyright (C) K.Niwa 2014.08.06", (getWidth()/2-240)+100, (getHeight()/2-
343)+640, paint);
    //作者表示

    if (flag >= 5) {
        if (d11<98 && d21<98 && d31<98 && d41<98 && d51<98 && d61<98 && d12<98 && d22<98
&& d32<98 && d42<98 && d52<98 && d62<98 && d13<98 && d23<98 && d33<98 && d43<98 && d53<98 && d63<98 && d14
<98 && d24<98 && d34<98 && d44<98 && d54<98 && d64<98 && d15<98 && d25<98 && d35<98 && d45<98 && d55<98 &&

```



```

d65<98 && d16<98 && d26<98 && d36<98 && d46<98 && d56<98 && d66<98) {
    invalidate();
}
} //protected void onDraw(Canvas canvas)

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

    syoki++;
    if (syoki > 6) {
        flag=0; // 自
    }
    syoki=0; //初期化識別子
    ct1=0; //実
    d11=0;d21=0;d31=0;d41=0;d51=0;d61=0; //度数 d31とはさいころ1の目が3で、さ
    d12=0;d22=0;d32=0;d42=0;d52=0;d62=0;
    d13=0;d23=0;d33=0;d43=0;d53=0;d63=0;
    d14=0;d24=0;d34=0;d44=0;d54=0;d64=0;
    d15=0;d25=0;d35=0;d45=0;d55=0;d65=0;
    d16=0;d26=0;d36=0;d46=0;d56=0;d66=0;
    d=0; //積
    ritu=0; //積
}
invalidate();
return false;
}
}

```

[2] main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:weightSum="1" >
    <jp.seitoku.saicoro.Saicoro
        android:layout_height="match_parent"
        android:layout_width="match_parent"
        android:id="@+id/myview1">
    </jp.seitoku.saicoro.Saicoro>
</LinearLayout>

```

[3] SaicoroActivity.java

```

package jp.seitoku.saicoro;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;

```

```

import android.util.DisplayMetrics;           //----- <画像の拡大・縮小に必要なライブラリ>

public class SaicoroActivity extends Activity {

    static int ritsu;

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.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; // ----- これで値が取り出せた!
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.main, menu);
        return true;
    }
}

```