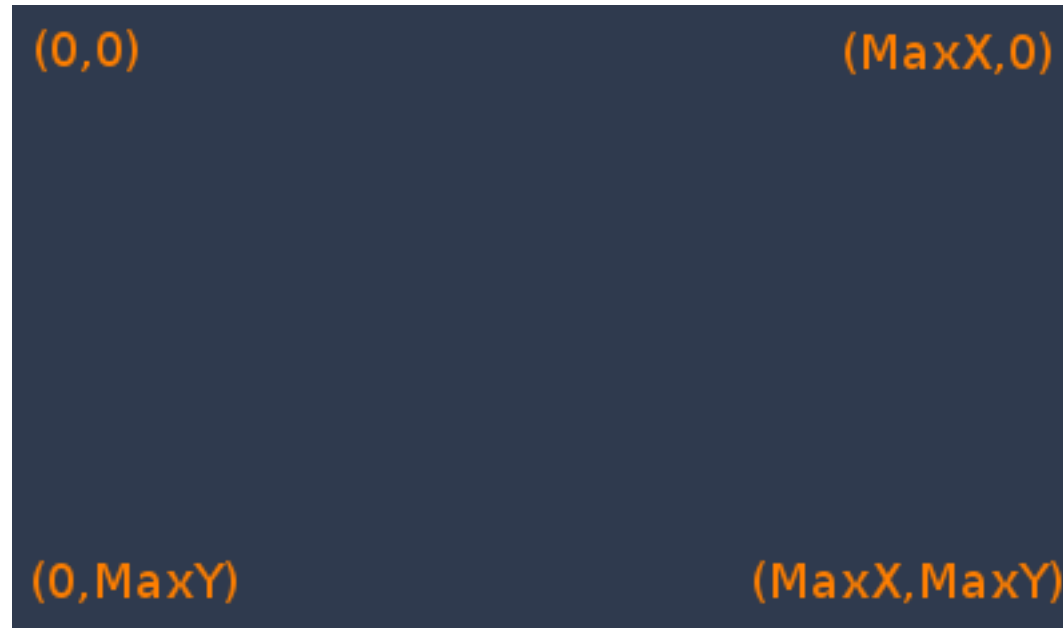


Drawing

CS 371M Mobile Computing

Android screen coordinates



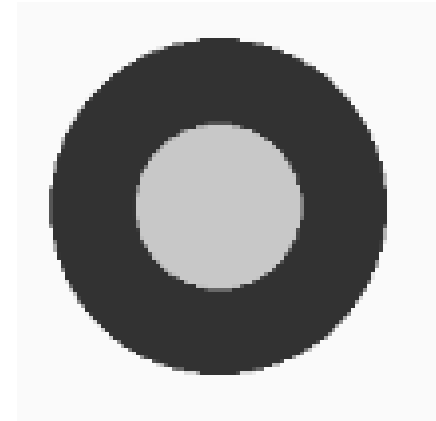
<https://stackoverflow.com/questions/11483345/how-do-android-screen-coordinates-work>

Getting the size of your window

```
Display display = get WindowManager().getDefaultDisplay();  
Point size = new Point();  
display.getSize(size);  
int maxX = size.x;  
int maxY = size.y;
```

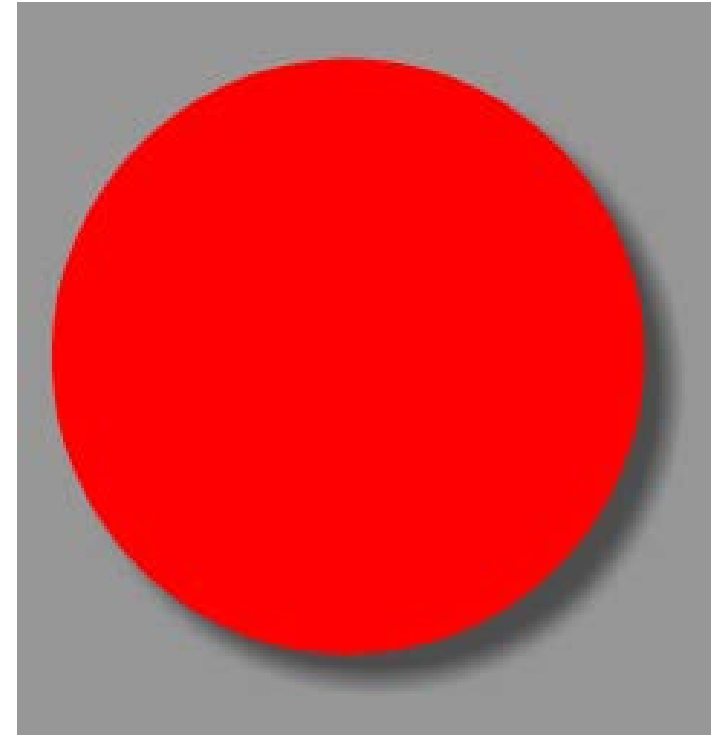
Simple drawing example

```
Bitmap makeBitmap() {  
    int h = 135;  
    int w = 135;  
    Bitmap bm = Bitmap.createBitmap(w, h, Bitmap.Config.RGB_565);  
    Canvas canvas = new Canvas(bm);  
    Paint paint = new Paint();  
  
    Paint darkPaint = new Paint();  
    darkPaint.setColor(Color.rgb(50, 50, 50));  
  
    Paint lightPaint = new Paint();  
    lightPaint.setColor(Color.rgb(200, 200, 200));  
  
    canvas.drawCircle(w/2, h/2, h/2, darkPaint);  
    canvas.drawCircle(w/2, h/2, h/4, lightPaint);  
  
    return bm;  
}
```



Drawable resources

```
<?xml version="1.0" encoding="utf-8"?>
<shape
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:shape="oval"
    >
<corners
    android:radius="10dp"
    />
<size android:height="20dp"
    android:width="20dp"
    />
/>
<solid
    android:color="#FF0000"
    />
<padding
    android:bottom="2dp"
    android:top="2dp"
    android:left="2dp"
    android:right="2dp"
    />
</shape>
```



Ways to use a drawable

```
Resources res = getResources\(\);  
Drawable shape = res.getDrawable(R.drawable.gradient_box);
```

```
TextView tv = (TextView)findViewById(R.id.textview);  
tv.setBackground(shape);
```

```
Bitmap bm = BitmapFactory.decodeResource(getResources(), R.drawable.circle);  
ImageView im = (ImageView)findViewById(R.id.imageview);  
im.setImageBitmap(bm);
```

```
<TextView  
    android:background="@drawable/gradient_box"  
    android:layout_height="wrap_content"  
    android:layout_width="wrap_content" />
```

One more way

```
Paint paint = new Paint();  
paint.setColor(Color.parseColor("#CD5C5C"));  
Bitmap bg = Bitmap.createBitmap(480, 800, Bitmap.Config.ARGB_8888);  
Canvas canvas = new Canvas(bg);  
canvas.drawRect(50, 50, 200, 200, paint);  
LinearLayout ll = (LinearLayout) findViewById(R.id.a_linear_layout);  
ll.setBackgroundDrawable(new BitmapDrawable(bg));
```