

Explanation for drawing UIView.

In the practice, you should create a new file which subclasses from UIView.

1. Override a few methods

- Override the UIView's designed initializer.

```
-(instancetype)initWithFrame:(CGRect)frame {  
    self = [super initWithFrame:frame];  
  
    if (self) {  
        // your code goes here  
    }  
    return self;  
}
```
- override awakeFromNib
 - awakeFromNib will be create when a View comes out of a Storyboard

```
-(void)awakeFromNib {  
    // your code goes here  
}
```

a good practice for initialising UIView

```
-(instancetype)initWithFrame:(CGRect)frame {  
    self = [super initWithFrame:frame];  
  
    if (self) {  
        [self setUp];  
    }  
    return self;  
}  
  
-(void)awakeFromNib {  
    [self setUp];  
}  
  
-(void)setUp{  
  
    // your code goes here  
}
```

2. methods for drawing shape.

```
//draw circle  
- (void)drawCircle:(CGContextRef)context {  
    UIGraphicsPushContext(context);  
  
    UIBezierPath *path = [UIBezierPath bezierPathWithOvalInRect:self.bounds];  
    [path addClip];  
    [path fill];  
  
    UIGraphicsPopContext();  
}
```

```
//draw triangle
- (void)drawTriangle:(CGContextRef)context {
    UIGraphicsPushContext(context);
    UIBezierPath *path=[UIBezierPath bezierPath];

    [path moveToPoint:CGPointMake(45, 0)];
    [path addLineToPoint:CGPointMake(90, 90)];
    [path addLineToPoint:CGPointMake(0, 90)];

    [path closePath];
    [path fill];
}
```

```
//draw Rectangle

- (void)drawRectangle:(CGContextRef)context {
    UIGraphicsPushContext(context);

    CGContextAddRect(context, self.bounds);

    CGContextFillPath(context);

    UIGraphicsPopContext();
}
```

```
//draw pentagon

-(void)drawPentagon:(CGContextRef)context {
    UIGraphicsPushContext(context);

    UIBezierPath *path = [UIBezierPath bezierPath];

    // Set the starting point of the shape.
    [path moveToPoint:CGPointMake(45.0, 0.0)];

    // Draw the lines.
    [path addLineToPoint:CGPointMake(90.0, 20.0)];
    [path addLineToPoint:CGPointMake(80, 70)];
    [path addLineToPoint:CGPointMake(20.0, 70)];
    [path addLineToPoint:CGPointMake(0.0, 20.0)];
    [path closePath];

    [UIColor colorWithRed:0.1 green:1 blue:1 alpha:1];
    [path fill];
}
```

After creating your View, you will see a comment line in your view. It is an important method for drawing. That method is called `-(void)drawRect:(CGRect)rect;`. In order to draw, you have to create a context reference for above methods.

****important: DO NOT call `drawRect` directly. If you want to call `drawRect` to draw, you can use `setNeedsDisplay` instead.

