

# Rectangle Man

## Lecture 10

Robb T. Koether

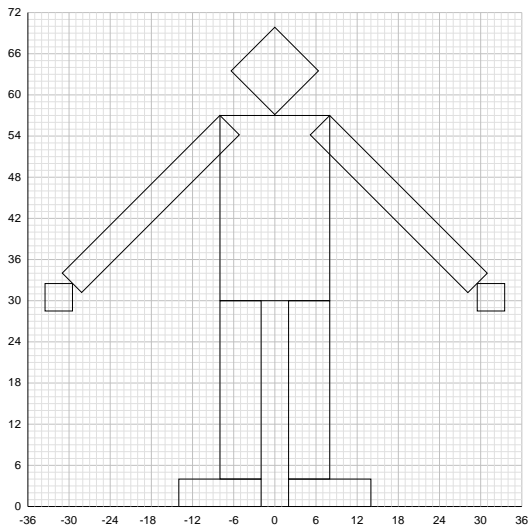
Hampden-Sydney College

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## 1 Drawing Rectangle Man

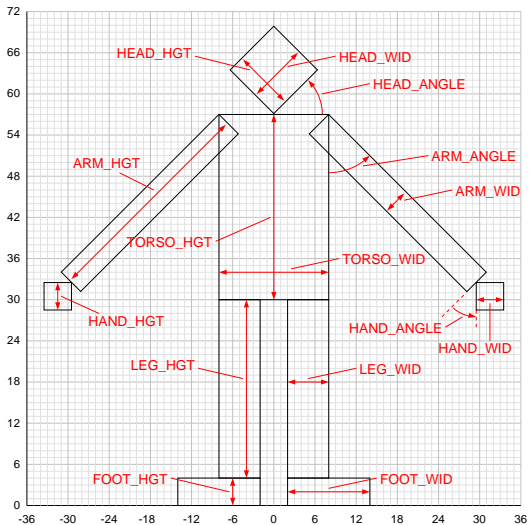
## 1 Drawing Rectangle Man

# Drawing "Rectangle Man"



Rectangle Man

# Drawing "Rectangle Man"



Rectangle Man's Dimensions

# The display() Function

## The display() Function

```
void display()
{
    :
    model_stack.init();
    model_stack.translate(offset_x, offset_y, 0.0f);
    model_stack.translate(x_0, y_0, 0.0f);
    model_stack.rotate(rot_angle, 0.0f, 0.0f, 1.0f);
    model_stack.scale(scale_factor, scale_factor, 1.0f);
    model_stack.translate(-x_0, -y_0, 0.0f);
    :
    drawRectangleMan(); // Draw Rect Man in model coords
}
```

# The drawRectangleMan () Function

## The drawRectangleMan () Function

```
void drawRectangleMan ()
{
    drawHalfMan ();           // Draw right half
    model_stack.push ();
    {
        model_stackscale (-1.0f, 1.0f, 1.0f);
        drawHalfMan ();      // Draw left half
    }
    model_stack.pop ();
    drawHead ();
}
```

# The drawFoot () Function

## The drawFoot () Function

```
void drawFoot ()
{
    model_stack.push ();
    {
        model_stack.translate (LEG_GAP/2.0f, 0.0f, 0.0f);
        model_stack.scale (FOOT_WID, FOOT_HGT, 1.0f);
        drawRectangle ();    // Draw basic square
    }
    model_stack.pop ();
}
```



# The drawArm() Function

## The drawArm() Function

```
void drawArm()
{
    model_stack.push();
    {
        model_stack.translate(TORSO_WID/2.0f,
            FOOT_HGT + LEG_HGT + TORSO_HGT, 0.0f);
        model_stack.rotate(ARM_ANGLE, 0.0f, 0.0f, 1.0f);
        model_stack.translate(-ARM_WID, -ARM_HGT, 0.0f);
        model_stack.push();
        {
            model_stack.scale(ARM_WID, ARM_HGT, 1.0f);
            drawRectangle();
        }
        model_stack.pop();
        drawHand();
    }
    model_stack.pop();
}
```

# The drawHand () Function

## The drawHand () Function

```
void drawHand()  
{  
    model_stack.push();  
    {  
        model_stack.translate(ARM_WID/2.0f, 0.0f, 0.0f);  
        model_stack.rotate(-HAND_ANGLE, 0.0f, 0.0f, 1.0f);  
        model_stack.translate(0.0f, -HAND_HGT, 0.0f);  
        model_stack.scale(HAND_WID, HAND_HGT, 1.0f);  
        drawRectangle();  
    }  
    mode_stack.pop();  
}
```