

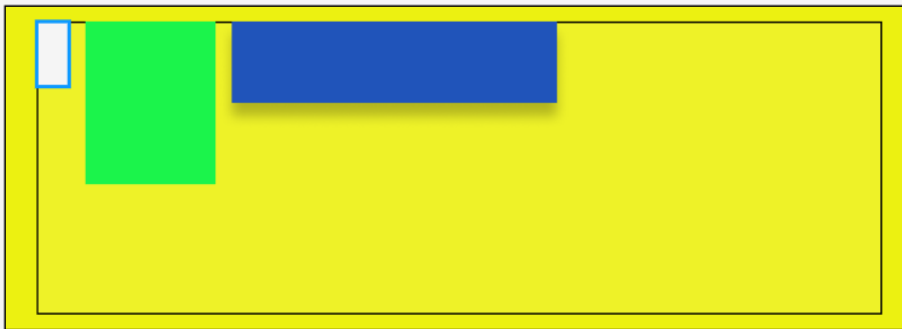
PROBLEM: Place the given boxes inside the container, using below conditions

- 1.Begin placing the boxes from the top-left corner of the container.
- 2.Fill the boxes in a row until there is not enough space to accommodate the next box.
If there's insufficient space, move to the next row and start filling from the left again.
- 3.Ensure that no box has a width greater than the width of the container.
- 4.When a box exceeds the vertical space of the container, scale the box while maintaining its aspect ratio to fit it within the container.
- 5.In cases where the vertical space is entirely filled, and there are still remaining boxes to place, scale down the boxes in the last row by 50% and continue filling the next row to optimize space utilization.

TEST CASES:

1.

```
{
  boxes: [ {w: 20, h: 10, rotate:true, angle:90, color: "white"},
            {w: 40, h: 50, rotate:false, angle:0, color: "green"},
            {w: 100, h: 25, rotate:false, angle:0, color: "blue"}],
  design: { w: 280, h: 100, margin: { h: 10, v: 5 } }
  boxPadding: 5
}
```



2.

```
{
  boxes: [ {w: 20, h: 10, rotate:true, angle:90, color: "white"},
            {w: 40, h: 50, rotate:false, angle:0, color: "green"},
            {w: 240, h: 25, rotate:false, angle:0, color: "blue"}],
  design: { w: 280, h: 100, margin: { h: 10, v: 5 } }
  boxPadding: 5
}
```

}



3.

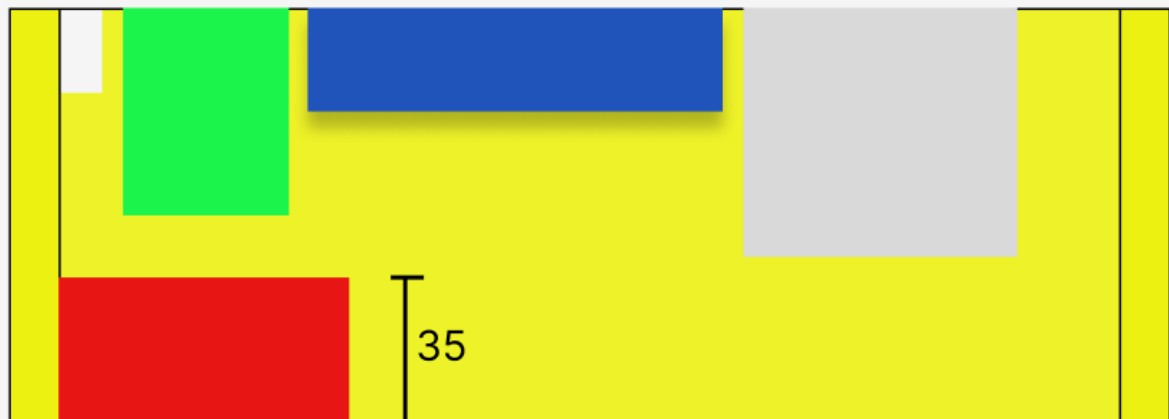
{

```
boxes: [ {w: 20, h: 10, rotate:true, angle:90, color: "white"},  
          {w: 40, h: 50, rotate:false, angle:0, color: "green"},  
          {w: 100, h: 25, rotate:false, angle:0, color: "blue"}],  
          {w: 60, h: 66, rotate:true, angle:90, color: "grey"}],  
          {w: 100, h: 50, rotate:false, angle:0, color: "red"}],
```

```
design: { w: 280, h: 100, margin: { h: 12, v: 0 } }
```

```
boxPadding: 5
```

}



4.

{

```
boxes: [ {w: 20, h: 10, rotate:true, angle:90, color: "white"},  
          {w: 40, h: 50, rotate:false, angle:0, color: "green"},  
          {w: 100, h: 25, rotate:false, angle:0, color: "blue"}],  
          {w: 60, h: 80, rotate:true, angle:90, color: "grey"}],  
          {w: 100, h: 50, rotate:false, angle:0, color: "red"}],  
          {w: 100, h: 30, rotate:false, angle:0, color: "pink"}],
```

```
{w: 100, h: 25, rotate:false, angle:0, color: "black"}],
```

```
design: { w: 280, h: 100, margin: { h: 12, v: 0 } }  
boxPadding: 5  
}
```



5.

```
{  
boxes: [ {w: 20, h: 10, rotate:true, angle:90, color: "white"},  
          {w: 40, h: 50, rotate:false, angle:0, color: "green"},  
          {w: 100, h: 25, rotate:false, angle:0, color: "blue"}],  
          {w: 60, h: 80, rotate:true, angle:90, color: "grey"},  
          {w: 100, h: 50, rotate:false, angle:0, color: "red"},  
          {w: 100, h: 30, rotate:false, angle:0, color: "pink"},  
          {w: 100, h: 25, rotate:false, angle:0, color: "black"}],
```

```
design: { w: 280, h: 100, margin: { h: 12, v: 0 } }  
boxPadding: 5  
}
```

