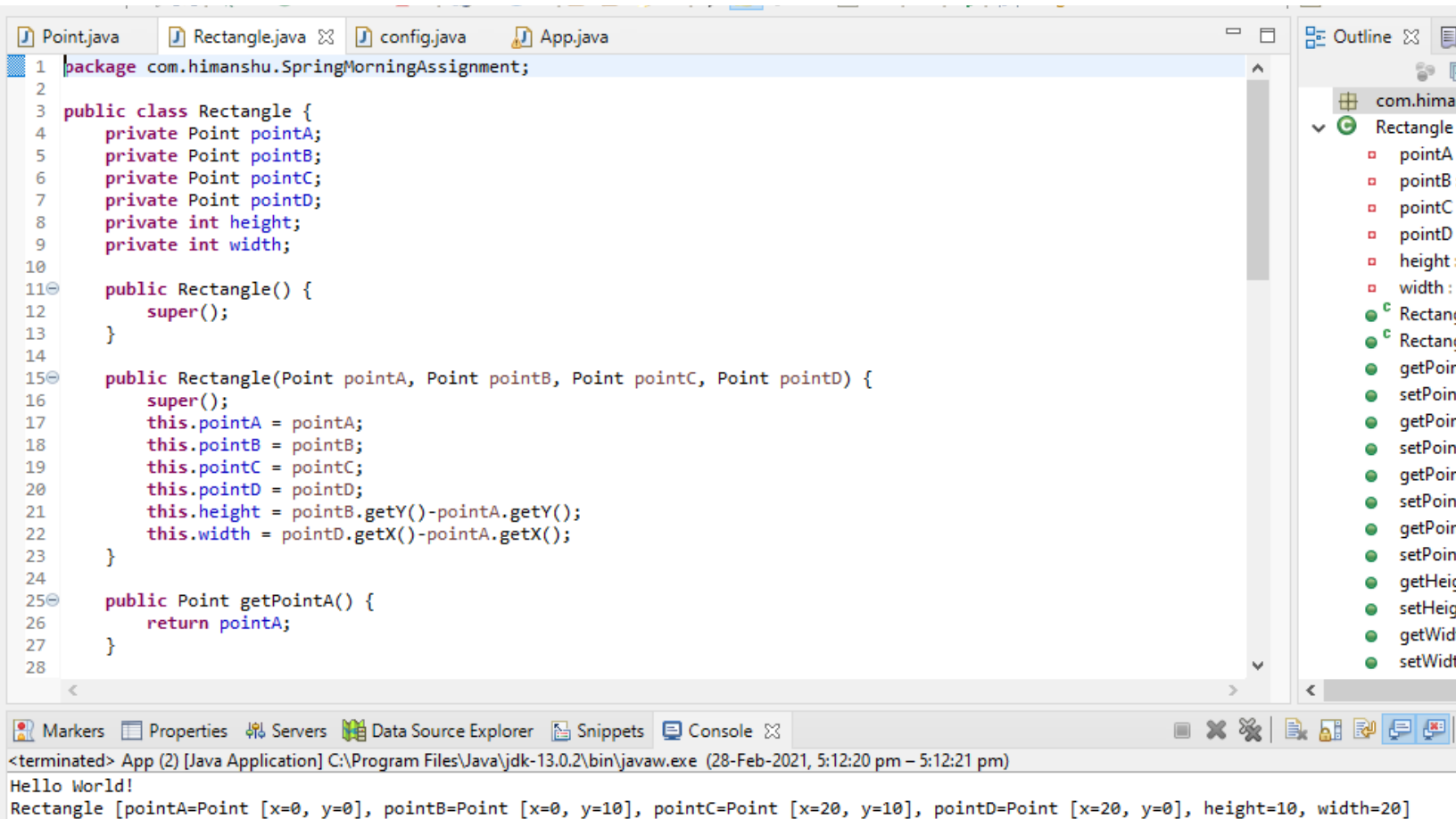1) Create project with Rectangle as a base class.
   Create Point class and add 4 Point class objects in Rectangle.
   Add height and width also as properties in rectriangle class.
   Add spring configuration using JAVA BASED approach(Using java
   configuration class).


USING INDIVIDUAL POINT OBJECTS

```
Point.java        Rectangle.java        config.java        App.java

 1 package com.himanshu.SpringMorningAssignment;
 2
 3 public class Rectangle {
 4     private Point pointA;
 5     private Point pointB;
 6     private Point pointC;
 7     private Point pointD;
 8     private int height;
 9     private int width;
10
11     public Rectangle() {
12         super();
13     }
14
15     public Rectangle(Point pointA, Point pointB, Point pointC, Point pointD) {
16         super();
17         this.pointA = pointA;
18         this.pointB = pointB;
19         this.pointC = pointC;
20         this.pointD = pointD;
21         this.height = pointB.getY()-pointA.getY();
22         this.width = pointD.getX()-pointA.getX();
23     }
24
25     public Point getPointA() {
26         return pointA;
27     }
28
```
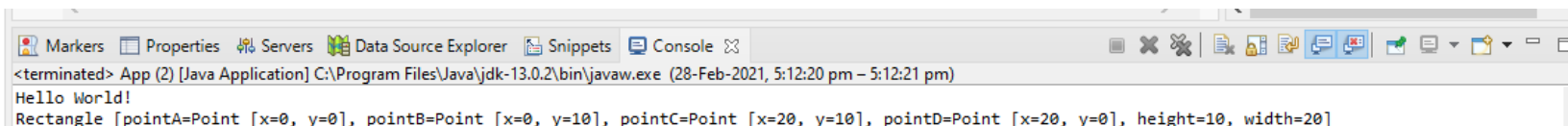
Outline

com.hima
Rectangle
   pointA
   pointB
   pointC
   pointD
   height
   width :
   Rectang
   Rectang
   getPoin
   setPoin
   getPoin
   setPoin
   getPoin
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   setWidt

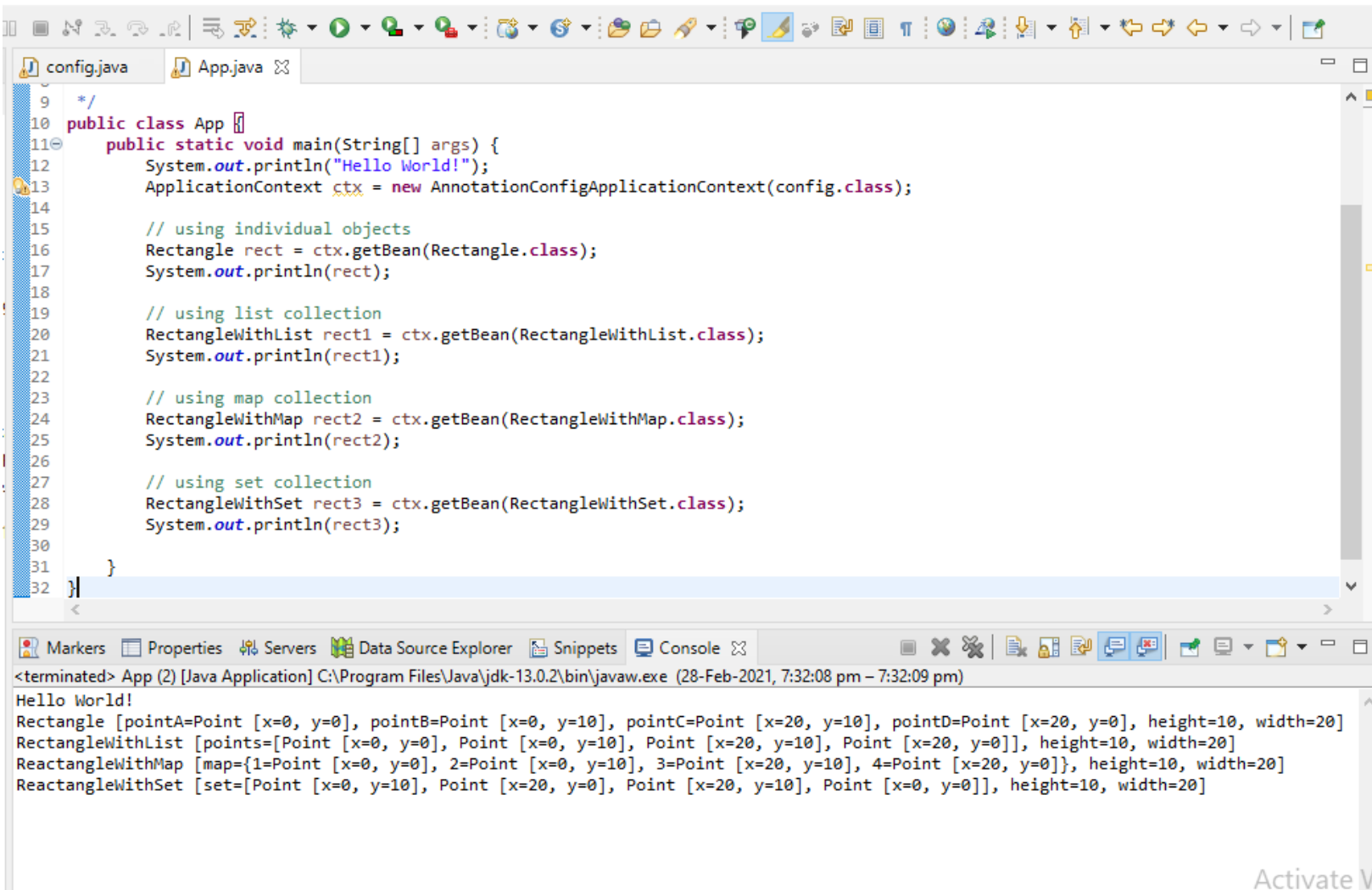Markers  Properties  Servers  Data Source Explorer  Snippets  Console
<terminated> App (2) [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (28-Feb-2021, 5:12:20 pm – 5:12:21 pm)
Hello World!
Rectangle [pointA=Point [x=0, y=0], pointB=Point [x=0, y=10], pointC=Point [x=20, y=10], pointD=Point [x=20, y=0], height=10, width=20]

Activate Window
Go to Settings to acti

**OUTPUT**

Markers  Properties  Servers  Data Source Explorer  Snippets  Console
<terminated> App (2) [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (28-Feb-2021, 5:12:20 pm – 5:12:21 pm)
Hello World!
Rectangle [pointA=Point [x=0, y=0], pointB=Point [x=0, y=10], pointC=Point [x=20, y=10], pointD=Point [x=20, y=0], height=10, width=20]

**USING COLLECTIONS**

```java
 9   */
10  public class App {
11      public static void main(String[] args) {
12          System.out.println("Hello World!");
13          ApplicationContext ctx = new AnnotationConfigApplicationContext(config.class);
14
15          // using individual objects
16          Rectangle rect = ctx.getBean(Rectangle.class);
17          System.out.println(rect);
18
19          // using list collection
20          RectangleWithList rect1 = ctx.getBean(RectangleWithList.class);
21          System.out.println(rect1);
22
23          // using map collection
24          RectangleWithMap rect2 = ctx.getBean(RectangleWithMap.class);
25          System.out.println(rect2);
26
27          // using set collection
28          RectangleWithSet rect3 = ctx.getBean(RectangleWithSet.class);
29          System.out.println(rect3);
30
31      }
32  }
```
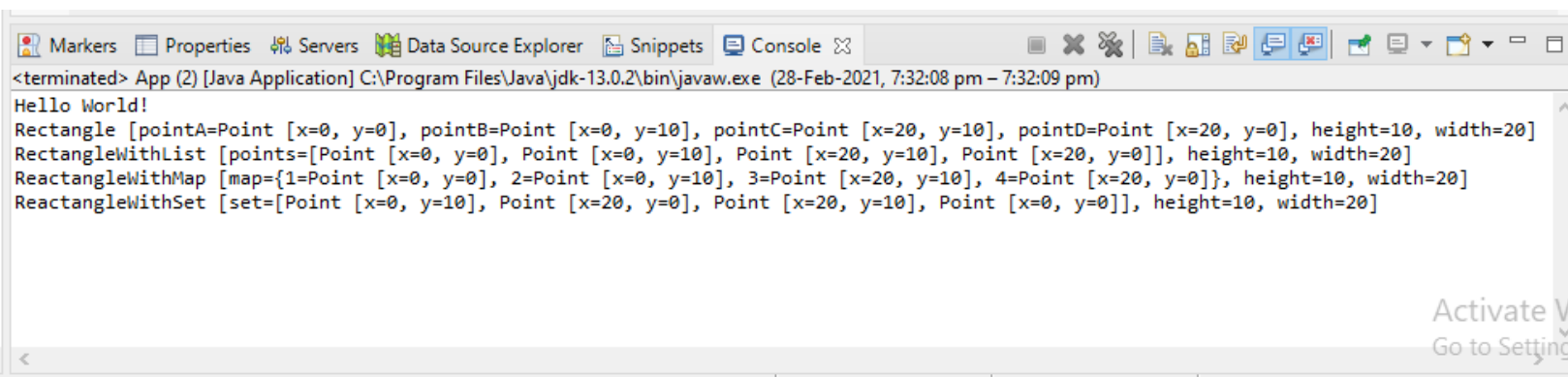
```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console
<terminated> App (2) [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe  (28-Feb-2021, 7:32:08 pm – 7:32:09 pm)

Hello World!
Rectangle [pointA=Point [x=0, y=0], pointB=Point [x=0, y=10], pointC=Point [x=20, y=10], pointD=Point [x=20, y=0], height=10, width=20]
RectangleWithList [points=[Point [x=0, y=0], Point [x=0, y=10], Point [x=20, y=10], Point [x=20, y=0]], height=10, width=20]
ReactangleWithMap [map={1=Point [x=0, y=0], 2=Point [x=0, y=10], 3=Point [x=20, y=10], 4=Point [x=20, y=0]}, height=10, width=20]
ReactangleWithSet [set=[Point [x=0, y=10], Point [x=20, y=0], Point [x=20, y=10], Point [x=0, y=0]], height=10, width=20]
```

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**OUTPUT**

```
Markers   Properties   Servers   Data Source Explorer   Snippets   Console
<terminated> App (2) [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe  (28-Feb-2021, 7:32:08 pm – 7:32:09 pm)

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Rectangle [pointA=Point [x=0, y=0], pointB=Point [x=0, y=10], pointC=Point [x=20, y=10], pointD=Point [x=20, y=0], height=10, width=20]
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ReactangleWithSet [set=[Point [x=0, y=10], Point [x=20, y=0], Point [x=20, y=10], Point [x=0, y=0]], height=10, width=20]
```

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