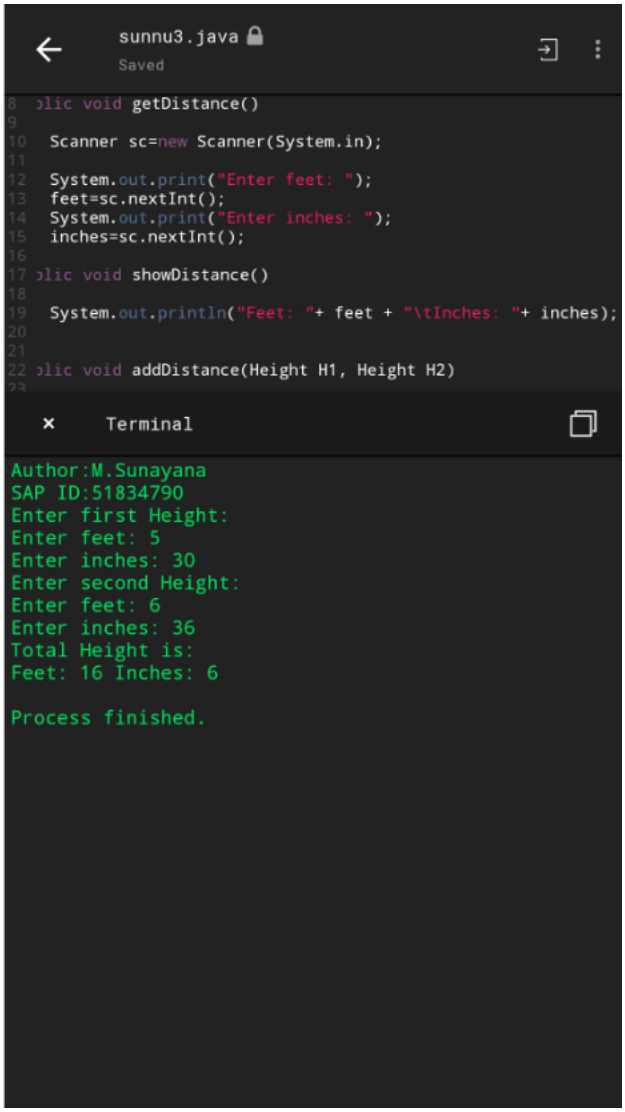
Assignment

1) import java.util.*;

```
class Height
{
	private int feet;
	private int inches;

	public void getDistance()
	{
		Scanner sc=new Scanner(System.in);

		System.out.print("Enter feet: ");
		feet=sc.nextInt();
		System.out.print("Enter inches: ");
		inches=sc.nextInt();
	}
	public void showDistance()
	{
		System.out.println("Feet: "+ feet + "\tInches: "+ inches);
	}

	public void addDistance(Height H1, Height H2)
	{
		inches=H1.inches+H2.inches;
```

```
                feet=H1.feet+H2.feet+(inches/12);
                inches=inches%12;
        }
}

public class Main
{
        public static void main(String []s)
        {
                try
                {

                        Height H1=new Height();
                        Height H2=new Height();
                        Height H3=new Height();

                        //read first Height
                        System.out.println("Author:M.Sunayana\nSAP ID:51834790");
                        System.out.println("Enter first Height: ");
                        H1.getDistance();

                        //read second Height
                        System.out.println("Enter second Height: ");
                        H2.getDistance();
```

```
                    //add heights
                    H3.addDistance(H1,H2);
                    //print Height
                    System.out.println("Total Height is:" );
                    H3.showDistance();
                }
                catch (Exception e)
                {
                    System.out.println("Exception occurred :"+ e.toString());
                }
        }
}
```



2) abstract class Furniture {

protected String color;

protected int width;

protected int height;

public abstract void accept();

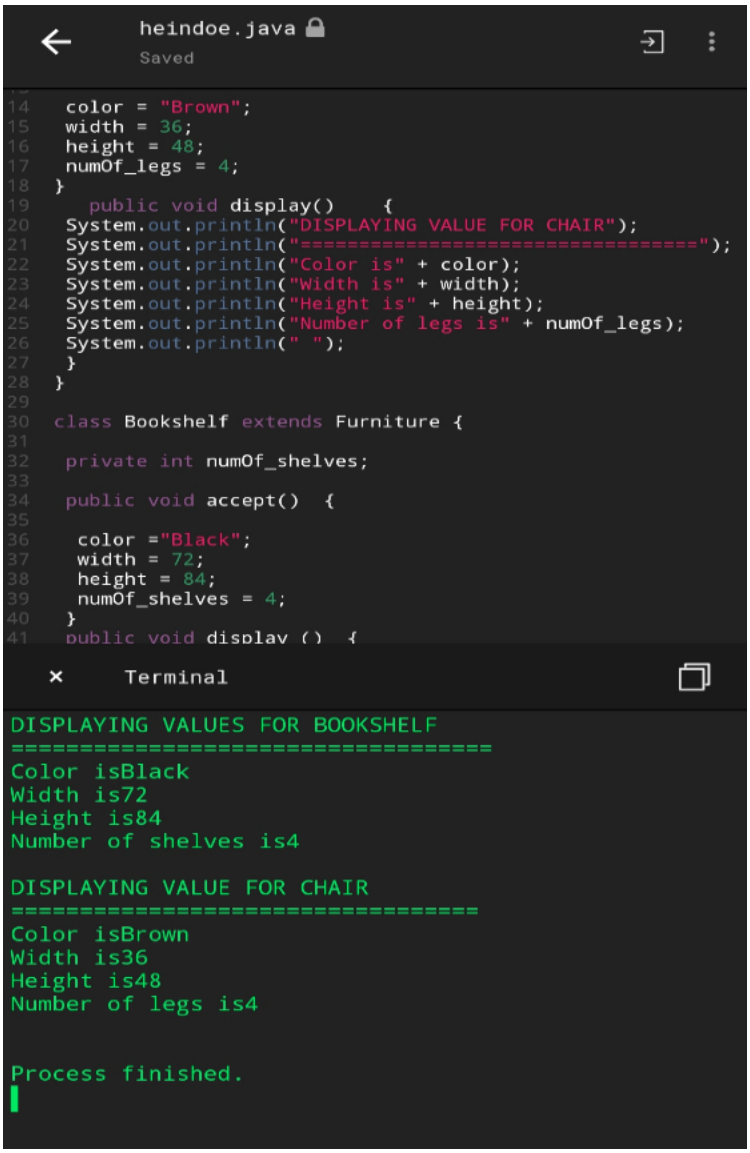
public abstract void display();

}

```
   class chair extends Furniture {
 private int numOf_legs;

 public void accept() {

 color = "Brown";
 width = 36;
 height = 48;
 numOf_legs = 4;
}
   public void display()    {
 System.out.println("DISPLAYING VALUE FOR CHAIR");
 System.out.println("==================================");
 System.out.println("Color is" + color);
 System.out.println("Width is" + width);
 System.out.println("Height is" + height);
 System.out.println("Number of legs is" + numOf_legs);
 System.out.println(" ");
 }
}

class Bookshelf extends Furniture {

 private int numOf_shelves;
```

```
 public void accept()  {

  color ="Black";
  width = 72;
  height = 84;
  numOf_shelves = 4;
 }
 public void display ()  {
  System.out.println("DISPLAYING VALUES FOR BOOKSHELF");
  System.out.println
 ("==================================");

 System.out.println("Color is" + color);
 System.out.println("Width is" + width);
 System.out.println("Height is" + height);
 System.out.println("Number of shelves is" + numOf_shelves);
 System.out.println(" ");
 }
}

class FurnitureDemo  {
 public static void main(String[] args)   {
  Bookshelf b1 = new Bookshelf();
  b1.accept();
  b1.display();
```

```
 chair c1 = new chair ();
 c1.accept();
 c1.display();


}
}
```



3) import java.util.*;

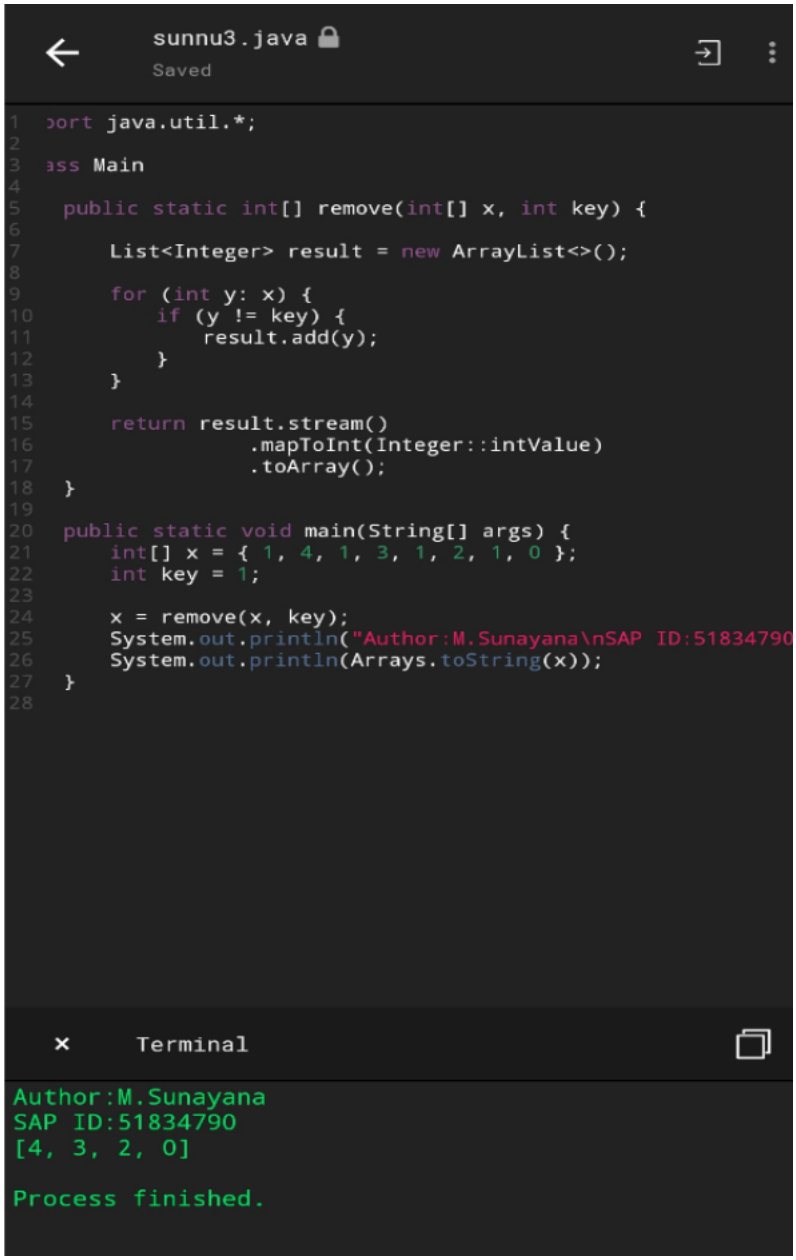
class Main

{

public static int[] remove(int[] x, int key) {

List<Integer> result = new ArrayList<>();

```
        for (int y: x) {
            if (y != key) {
                result.add(y);
            }
        }

        return result.stream()
                .mapToInt(Integer::intValue)
                .toArray();
    }

    public static void main(String[] args) {
        int[] x = { 1, 4, 1, 3, 1, 2, 1, 0 };
        int key = 1;

        x = remove(x, key);
        System.out.println("Author:M.Sunayana\nSAP ID:51834790");
        System.out.println(Arrays.toString(x));
    }
}
```



4) public class Main

{

public static void main(String[] args)

{

int i,j,k;

```
for(i=1;i<=5;i++)
{
   for(j=5;j>i;j--)
   {
      System.out.print(" ");
   }
   if(i%2!=0)
   {
      for(j=1,k=1;j<=2*i-1;j++)
      {
         if(j<i)
         {
            System.out.print(k);
            k++;
         }
         else
         {
            System.out.print(k);
            k--;
         }
      }
   }
   else
   {
      for(j=1,k=i;j<=2*i-1;j++)
```

```
                {
                    if(j<i)
                    {
                        System.out.print(k);
                        k--;
                    }
                    else
                    {
                        System.out.print(k);
                        k++;
                    }
                }
            }
                    System.out.println();
        }
    }
}
```