

Question 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 + "\nInches: "+ 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("Program by Manasa \nJava1\nSAP ID:51834754");  
            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());
}
}
}
```

```
Program by Manasa
Java1
SAP ID:51834754
Enter first Height:
Enter feet: 5
Enter inches: 8
Enter second Height:
Enter feet: 7
Enter inches: 6
Total Height is:
Feet: 13Inches: 2

Process finished.
```

QUESTION 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) {  
        System.out.println("Program by Manasa\nJava1\nSap:51834754");  
        Bookshelf b1 = new Bookshelf();  
        b1.accept();  
        b1.display();  
  
        chair c1 = new chair ();  
        c1.accept();  
        c1.display();  
  
    }  
}
```

```
22 println("Color is" + color);
23 println("Width is" + width);
24 println("Height is" + height);
25 println("Number of legs is" + numOf_legs);
26 println(" ");
27
28
29
30 self extends Furniture {
```

× Terminal

```
Program by Manasa
Java1
Sap:51834754
DISPLAYING VALUES FOR BOOKSHELF
=====
Color isBlack
Width is72
Height is84
Number of shelves is4

DISPLAYING VALUE FOR CHAIR
=====
Color isBrown
Width is36
Height is48
Number of legs is4

Process finished.
```

QUESTION 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, 7, 1, 3, 1, 4, 1, 0 };
    int key = 1;

    x = remove(x, key);

    System.out.println("Program by Manasa \nJava1\nSAP ID:51834754");
    System.out.println(Arrays.toString(x));
}
}

```

```

1 import java.util.*;
2
3 class Main
4 {
5     public static int[] remove(int[] x, int key) {
6
7         List<Integer> result = new ArrayList<>();
8
9         for (int y: x) {
10             if (y != key) {
11                 result.add(y);
12             }
13         }
14
15         return result.stream()
16             .mapToInt(Integer::intValue)
17             .toArray();
18     }
19
20     public static void main(String[] args) {
21         int[] x = { 1, 7, 1, 3, 1, 4, 1, 0 };
22         int key = 1;
23
24         x = remove(x, key);
25         System.out.println("Program by Manasa \nJava");
26         System.out.println(Arrays.toString(x));
27     }
28 }
29
30

```

× Terminal

```

Program by Manasa
Java1
SAP ID:51834754
[7, 3, 4, 0]

Process finished.

```

QUESTION 4:

```
import java.util.*;
```

```
public class PalindromePattern
```

```
{
```

```
    public static void main(String[] args)
```

```
    {
```

```
        int i,j,k;
```

```
        Scanner sc=new Scanner(System.in);
```

```
        System.out.println("Program by Manasa\nJava1\nSap:51834754");
```

```
        System.out.println("enter no.of rows");
```

```
        int n=sc.nextInt();
```

```
        for(i=0; i<n; i++)
```

```
        {
```

```
//inotializing k as one
```

```
k=1;
```

```
for(j=0; j<(n+i); j++)
```

```
{
```

```
    if(j<n-i-1)
```

```
        //prints space in the less than n-i-2 places
```

```
        System.out.print(" ");
```

```
    else
```

```
    {
```

```
        // else prints k
```

```
        System.out.print(+ k);
```

```
    if(j<(n-1))
```

```
        // if j is greater than n-1
```

```
//increases to k+1
```

```
k++;
```

```
else
```

```
//if not k as k-1
```

```
k--;
```

```
}
```

```
}
```

```
System.out.println(" ");
```

```
}
```

```
}
```

}

```
1 import java.util.*;
2 public class PalindromePattern
3 {
4     public static void main(String[] args)
5     {
6         int i,j,k;
7         Scanner sc=new Scanner(System.in);
8         System.out.println("Program by Manasa\nJava");
9         System.out.println("enter no.of rows");
10
11         int n=sc.nextInt();
12
13         for(i=0; i<n; i++)
14         {
15             //inotializing k as one
16             k=1;
17             for(j=0; j<(n+i); j++)
18             {
19                 if(j<n-i-1)
20                     //prints space in the less than n-i-
21                     System.out.print(" ");
22                 else
23                 {
24                     // else prints k
25                     System.out.print(+ k);
26                     if(i<(n-1))
```

× Terminal

```
Program by Manasa
Java1
Sap:51834754
enter no.of rows
5
    1
   121
  12321
 1234321
123454321
```

Process finished.

QUIZ MARKS : 17