Task 1

Complete the **Student** class so that the **main** method prints the following:
Name of the Student: Bob
ID of the Student: 1
Name of the Student: Tom
ID of the Student: 2
Name of the Student: Jack
ID of the Student: 3
Name of the Student: Jill
ID of the Student: 4

```
public class Student{
//Your code here
}
public class Printer{
public void printDetail(Student s){
System.out.println("Name of the Student: "+s.name);
System.out.println("ID of the Student: "+s.id);
}
}

public class Test{
public static void main(String [] args){
Student s1 = new Student("Bob", 1);
Student s2 = new Student("Tom", 2);
Student s3 = new Student("Jack", 3);
Student s4 = new Student("Jill", 4);
Printer pr = new Printer();
pr.printDetail(s1);
pr.printDetail(s2);
pr.printDetail(s3);
pr.printDetail(s4);
}
}
```

Task 2

```
 public class Cat{
public String color = "White";
public String action = "sitting";
//your code here
}
public class Test{
public static void main(String []
args){
Cat c1 = new Cat();
Cat c2 = new Cat("Black");
Cat c3 = new Cat("Brown",
```

```
"jumping");
Cat c4 = new Cat("Red", "purring");
c1.printCat();
c2.printCat();
c3.printCat();
c4.printCat();
c1.changeColor("Blue");
c3.changeColor("Purple");
c1.printCat();
c3.printCat();
}
}
```

Complete the **Cat** class so the **main** method above produces the following output:

```
White cat is sitting
Black cat is sitting
Brown cat is jumping
Red cat is purring
Blue cat is sitting
Purple cat is jumping
```

Task 3

Using the StudentDriver class and it's outputs given below, write the Student class:

```
public class StudentDriver
{
  public static void main(String[] args)
  {
    Student s1;
    s1= new Student();
    System.out.println(s1);
    System.out.println(s1.nameDao());
    System.out.println(s1.boloToAmiKe());
    System.out.println(s1.addressDao());
```

```
    System.out.println(s1.cgpaDao());
    s1.nameBoshao("Tonmoy Dewanjee");
    s1.addressBoshao("Mirpur");
    s1.idBoshao("16301157");
    s1.cgpaBoshao(4.0);
    System.out.println(s1.nameDao());
    System.out.println(s1.boloToAmiKe());
    System.out.println(s1.addressDao());
    System.out.println(s1.cgpaDao());
    Student s2 =  new Student("Azibun Nuder","16301045","Uttara",4.0);
    System.out.println(s2);
    System.out.println(s2.nameDao());
    System.out.println(s2.boloToAmiKe());
    System.out.println(s2.addressDao());
    System.out.println(s2.cgpaDao());
    Student s3 = new Student();
    System.out.println(s3);
    System.out.println(s3.nameDao());
    System.out.println(s3.boloToAmiKe());
    System.out.println(s3.addressDao());
    System.out.println(s3.cgpaDao());
    s1.standUp();
    s2.standUp();
    System.out.println(s1.tellMeYourName());
    System.out.println(s2.tellMeYourName());
    s1.call("Sumit Dutta");
    s2.call("Ananya Ritu");
```

```
    System.out.println(s1.add2Numbers(2,3));
  }
}
```

Output:

```
Student@109dfdfd
Ei name e kono student nai
Student ei nai, abar id :P
Naam nai .. thikana ashbe koi theke?
-4.0
Tonmoy Dewanjee
16301157
Mirpur
4.0
Student@57d8e362
Azibun Nuder
16301045
Uttara
4.0
Student@5de5bb3c
Ei name e kono student nai
Student ei nai, abar id :P
Naam nai .. thikana ashbe koi theke?
-4.0
Tonmoy Dewanjee is now standing up!!
Azibun Nuder is now standing up!!
Sir, my name is Tonmoy Dewanjee
Sir, my name is Azibun Nuder
Tonmoy Dewanjee: Hey, Sumit Dutta, Sir is calling you!!
```

```
Azibun Nuder: Hey, Ananya Ritu, Sir is calling you!!
```

```
5
```

Task 4

Write a function **trim()** that will take an array of characters as an input and remove multiple consecutive spaces from the array (**You cannot use the String class in java**). Following example code generates the output below:

```
public class Trim{
  public static char [] trim(char [] input){
      //Your code here
  }
  public static void main(String [] args){
    char [] input = {'T','h','i','s',' ',' ',' ',' ',' ','i','s',' ',' ','
',' ','a',' ',' ',' ',' ','t','e','s','t','.'};
    for (int i = 0; i< input.length; i++){
      System.out.print(input[i]);
    }
    System.out.println("");
    char []  output = trim(input);
    for (int i = 0; i< output.length; i++){
      System.out.print(output[i]);
    }
    System.out.println("");
  }
}
```

```
This     is    a    test.
This is a test.
```

Task 5

Write a **Java Code** of a program that reads in a string (UPPER-case letters only) from the **user** and prints the letter that occurs **second** most often.

For example, if the user enters the word "REFERENCES", your program should print the character R because the word has 4 E, 2 R, and all other character only once.

Notes:

s.length() returns the length of a string **s**.
s.charAt(int index) returns the character at the specified index of string **s**. An index ranges from 0 to length() - 1.

Task 6

Write a **Java Code** of a function that takes an array of integers (of positive and negative numbers) and the length or size of the array as parameters, then modifies the array by getting rid of the negative elements (the numbers after the removed one will have to shift forward to fill the gap of course). If there are multiple negative elements, remove all of those. The function returns the new size of the array.

Task7

Write the **removeOdd** function below which takes in an array of numbers that has even and odd numbers mixed. This function **removes** the odd numbers and returns a **compact** array which only has the even numbers. For example output of the following code is:

Sample Input

```
21 33 44 66 11 1 88 45 10 9
```

Sample Output

```
44 66 88 10
```

```
public class Test{
  public static int [] removeOdd (int [] input){
      //Your code here
  }
  public static void main(String [] args){
    int [] mixedArray = {21, 33, 44, 66, 11, 1, 88, 45, 10, 9};
    for (int i = 0; i < mixedArray.length; i++) {
      System.out.print(mixedArray[i] + " ");
    }
    System.out.println();
    int [] noOdd = removeOdd(mixedArray);
    for (int i = 0; i < noOdd.length; i++) {
      System.out.print(noOdd[i] + " ");
    }
  }
}
```

Task 8

```
public class FinalT6A{
  public int temp = 4;
  private int sum;
  private int y = 1;
  public FinalT6A(int x, int p){
    temp+=1;
    y = temp - p;
    sum = temp + x;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
```

```
    int x = 0;
    y = y + (++temp);
    x = x + 3 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence?

```
FinalT6A q1 = new FinalT6A(2,1);
q1.methodA();
q1.methodA();
```

x	y	sum

Task 9

```
1.  class msgClass{
2.    public int content;
3.  }
```

```
1.  public class Q5{
2.    private int sum;
3.    private int y;
4.    public int x;
5.    public Q5(){
6.      sum = 3;
7.      x = 1;
8.      y = 6;
9.    }
10.   public void methodA(){
11.     int x=1, y=1;
12.     msgClass [] msg = new msgClass[1];
13.     msgClass myMsg = new msgClass();
14.     myMsg.content = this.x;
15.     msg[0] = myMsg;
16.     msg[0].content = this.y + myMsg.content;
17.     this.y = this.y + methodB(msg[0]);
18.     y = methodB(msg[0]) + this.y;
19.     x = y + methodB(msg, msg[0]);
20.     sum = x + y + msg[0].content;
21.     System.out.println(x + " " + y+ " " + sum);
```

```
22.    }
23.    private int methodB(msgClass [] mg2, msgClass mg1){
24.      int x = 1;
25.      y = y + mg2[0].content;
26.      mg2[0].content = y + mg1.content;
27.      x = x + 3 + mg1.content;
28.      sum = sum + x + y;
29.      mg1.content = sum - mg2[0].content ;
30.      System.out.println(this.x + " " + this.y+ " " + sum);
31.      return sum;
32.    }
33.    private int methodB(msgClass mg1){
34.      int x = 1, y = 1;
35.      y = sum + mg1.content;
36.      this.y = y + mg1.content;
37.      x = this.x + 3 + mg1.content;
38.      sum = sum + x + y;
39.      this.x = mg1.content + x + 2;
40.      System.out.println(x + " " + y+ " " + sum);
41.      return y;
42.    }
43.  }
```

Write the output of the following code: [Answer on the question paper]

`Q5 q = new Q5();` `q.methodA();`	x	y	sum

Task 10

```
public class Quiz3A{

  public int temp = 4;

  public int sum;

  public int y;

  public Quiz3A(){

    y = temp - 1;

    sum = temp + 1;

    temp+=2;

  }

  public Quiz3A(int k){

    temp = temp++;
```

```
    sum = ++temp + k;
    y = sum - 1;
  }
  public int methodB(int m, int n){
    int x = 0;
    y = y + m + (++temp);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

Consider the following code:

```
    Quiz3A a1 = new Quiz3A();
    a1.methodB(1,2);
    Quiz3A a2 = new Quiz3A(3);
    a2.methodB(2,4);
    a1.methodB(2,1);
    a2.methodB(1,3);
```

x	y	sum

Task 11

```
public class FinalT6A{
  public int temp = 3;
  private int sum;
  private int y = 2;
  public FinalT6A(int x, int p){
    temp+=3;
    y = temp - p;
    sum = temp + x;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
```

```
    return sum;
  }
}
```

What is the output of the following code sequence?

```
FinalT6A q1 = new FinalT6A(2,1);
q1.methodA();
FinalT6A q2 = new FinalT6A(4,5);
q2.methodA();
```

x	y	sum

Task 12

```
1  public class Scope{
2  public int x = 1;
3  public int y = 100;
4  public void met1(){
5      int x = 3;
6      x = this.x + 1;
7      y = y + this.x + 1;
8      x = y + met2(x+y) + y;
```

```
 9      System.out.println(x);
10      System.out.println(y);
11    }
12    public int met2(int y){
13      System.out.println(x);
14      System.out.println(y);
15      this.x = x + y;
16      this.y = this.y + 200;
17      return x + y;
18    }
19  }
```

What is the output of the following code sequence?

```
Scope q2 = new Scope();

q2.met1();
q2.met2();
q2.met1();
q2.met2();
```

Task 13

```
public class FinalT6A{
  public int temp = 4;
  private int sum;
  private int y = 1;
  public FinalT6A(int x, int p){
```

```
    temp+=1;
    y = temp - p;
    sum = temp + x;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 3 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence?

`FinalT6A q1 = new FinalT6A(2,1);`
 	
`q1.methodA();`
	x	y	sum

q1.methodA();			

Task 14

```
4.  class msgClass{
5.    public int content;
6.  }
```

```
44. public class Q5{
45.   private int sum;
46.   private int y;
47.   public int x;
48.   public Q5(){
49.     sum = 3;
50.     x = 1;
51.     y = 6;
52.   }
53.   public void methodA(){
54.     int x=1, y=1;
55.     msgClass [] msg = new msgClass[1];
```

```
56.     msgClass myMsg = new msgClass();
57.     myMsg.content = this.x;
58.     msg[0] = myMsg;
59.     msg[0].content = this.y + myMsg.content;
60.     this.y = this.y + methodB(msg[0]);
61.     y = methodB(msg[0]) + this.y;
62.     x = y + methodB(msg, msg[0]);
63.     sum = x + y + msg[0].content;
64.     System.out.println(x + " " + y+ " " + sum);
65.   }
66.   private int methodB(msgClass [] mg2, msgClass mg1){
67.     int x = 1;
68.     y = y + mg2[0].content;
69.     mg2[0].content = y + mg1.content;
70.     x = x + 3 + mg1.content;
71.     sum = sum + x + y;
72.     mg1.content = sum - mg2[0].content ;
73.     System.out.println(this.x + " " + this.y+ " " + sum);
74.     return sum;
75.   }
76.   private int methodB(msgClass mg1){
77.     int x = 1, y = 1;
78.     y = sum + mg1.content;
79.     this.y = y + mg1.content;
80.     x = this.x + 3 + mg1.content;
81.     sum = sum + x + y;
```

```
82.     this.x = mg1.content + x + 2;
83.     System.out.println(x + " " + y+ " " + sum);
84.     return y;
85.   }
86. }
```

Write the output of the following code: [Answer on the question paper]

```
Q5 q = new Q5();

q.methodA();
```

x	y	sum

Task 15

```
public class FinalT6A{
  public int temp = 3;
  private int sum;
  private int y = 2;
  public FinalT6A(int x, int p){
    temp+=3;
    y = temp - p;
```

```
    sum = temp + x;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence?

```
FinalT6A q1 = new FinalT6A(2,1);

q1.methodA();

q1.methodA();
```

x	y	sum

Task 16

```
7.  class msgClass{
8.    public int content;
9.  }
```

```
87. public class Q5{
88.   private int sum;
89.   private int y;
90.   public int x;
91.   public Q5(){
92.     sum = 8;
93.     x = 2;
94.     y = 4;
95.   }
96.   public void methodA(){
97.     int x=0, y=0;
98.     msgClass [] msg = new msgClass[1];
99.     msgClass myMsg = new msgClass();
```

```
100     myMsg.content = this.x;
101     msg[0] = myMsg;
102     msg[0].content = this.y + myMsg.content;
103     this.y = this.y + methodB(msg[0]);
104     y = methodB(msg[0]) + this.y;
105     x = y + methodB(msg, msg[0]);
106     sum = x + y + msg[0].content;
107     System.out.println(x + " " + y+ " " + sum);
108   }
109   private int methodB(msgClass [] mg2, msgClass mg1){
110     int x = 0;
111     y = y + mg2[0].content;
112     mg2[0].content = y + mg1.content;
113     x = x + 30 + mg1.content;
114     sum = sum + x + y;
115     mg1.content = sum - mg2[0].content ;
116     System.out.println(this.x + " " + this.y+ " " + sum);
117     return sum;
118   }
119   private int methodB(msgClass mg1){
120     int x = 0, y = 0;
121     y = sum + mg1.content;
122     this.y = y + mg1.content;
123     x = this.x + 30 + mg1.content;
124     sum = sum + x + y;
125     this.x = mg1.content + x + 2;
```

```
126     System.out.println(x + " " + y+ " " + sum);
127     return y;
128   }
129 }
```

Write the output of the following code: [Answer on the question paper]

```
Q5 q = new Q5();
q.methodA();
```

x	y	sum

Task 17

```
public class FinalT6A{
  public int temp = 1;
  private int sum;
  private int y = 2;
  public FinalT6A(int x, int p){
    temp+=1;
    y = temp - p;
    sum = temp + x;
```

```
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 3 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 4 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence? **[Answer on question paper]**

```
FinalT6A q1 = new FinalT6A(5,6);

q1.methodA();

q1.methodA();
```

x	y	sum

Task 18

```
10. class msgClass{
11.   public int content;
12. }
```

```
130 public class Q5{
131   private int sum;
132   private int y;
133   public int x;
134   public Q5(){
135     sum = 1;
136     x = 2;
137     y = 3;
138   }
139   public void methodA(){
140     int x=1, y=1;
141     msgClass [] msg = new msgClass[1];
142     msgClass myMsg = new msgClass();
143     myMsg.content = this.x;
144     msg[0] = myMsg;
145     msg[0].content = this.y + myMsg.content;
146     this.y = this.y + methodB(msg[0]);
147     y = methodB(msg[0]) + this.y;
```

```
148     x = y + methodB(msg, msg[0]);
149     sum = x + y + msg[0].content;
150     System.out.println(x + " " + y+ " " + sum);
151   }
152   private int methodB(msgClass [] mg2, msgClass mg1){
153     int x = 1;
154     y = y + mg2[0].content;
155     mg2[0].content = y + mg1.content;
156     x = x + 4 + mg1.content;
157     sum = sum + x + y;
158     mg1.content = sum - mg2[0].content ;
159     System.out.println(this.x + " " + this.y+ " " + sum);
160     return sum;
161   }
162   private int methodB(msgClass mg1){
163     int x = 5, y = 6;
164     y = sum + mg1.content;
165     this.y = y + mg1.content;
166     x = this.x + 7 + mg1.content;
167     sum = sum + x + y;
168     this.x = mg1.content + x + 8;
169     System.out.println(x + " " + y+ " " + sum);
170     return y;
171   }
172 }
```

Write the output of the following code: [Answer on the question paper]

`Q5 q = new Q5();`	x	y	sum

`q.methodA();`			

Task 19

```
public class FinalT6A{
  public int temp = 3;
  private int sum;
  private int y = 2;
  public FinalT6A(int x, int p){
    temp+=3;
    y = temp - p;
    sum = temp + x;
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence?

`FinalT6A q1 = new FinalT6A(3,2);`
`FinalT6A q2 = new FinalT6A(2,3);`
`q1.methodA();`
`q2.methodA();`
	X	**y**	**sum**

Task 20

```
public class MidQ3A{
  public int sum;
  public int y;
  public void methodA(){
    int x=0, y =0, k = 0;
    int [] msg = new int[1];
    msg[0] = 5;
    while (k < 2){
      y = y + msg[0];
      x = y + methodB(msg, k);;
      sum = x + y + msg[0];
      System.out.println(x + " " + y+ " " + sum);
      k++;
    }
  }
  private int methodB(int [] mg2, int mg1){
    int x = 0;
    y = y + mg2[0];
    x = x + 3 + mg1;
```

```
    sum = sum + x + y;
    mg2[0] = y + mg1;
    mg1 = mg1 + x + 2;
    System.out.println(x + " " + y+ " " + sum);
    return mg1;
  }
}
```

In the above program show the values that are going to be printed as output if you run the methodA() on an instance of Class **MidQ3A**.

x	y	sum

Task 21

```
public class MidQ3B{
  public int sum;
  public int y;
  public void methodA(){
```

```
    int x=0, y =0, k = 0;
    int [] msg = new int[1];
    msg[0] = 5;
    while (k < 2){
      y = y + msg[0] + 1;
      x = y + methodB(msg, k);
      sum = x + y + msg[0];
      System.out.println(x + " " + y+ " " + sum);
      k++;
    }
  }
  private int methodB(int [] mg2, int mg1){
    int x = 0;
    y = y + mg2[0];
    x = x + 2 + mg1;
    sum = sum + x + y;
    mg2[0] = y + mg1 -2;
    mg1 = mg1 + x + 1;
    System.out.println(x + " " + y+ " " + sum);
    return mg1;
  }
}
```

In the above program show the values that are going to be printed as output if you run the methodA() on an instance of Class **MidQ3B**.

x	y	sum

Task: 22

```
class A{
  public int temp = 4;
  public int sum;
  public int y;
  public A(){
    y = temp - 2;
    sum = temp + 1;
    temp-=2;
  }
  public void methodA(int m, int n){
    int x = 0;
    y = y + m + (temp++);
    x = x + 1 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
}
class B{
  public int x;
  public int y = 5;
  public int temp = -5;
  public int sum = 2;
  public B(){
    y = temp + 3 ;
```

```
    sum = 3 + temp + 2;
    temp-=2;
  }
  public B(B b){
    sum = b.sum;
    x = b.x;
    b.methodB(2,3);
  }
   public void methodA(int m, int n){
    int x = 2;
    y = y + m + (temp++);
    x = x + 5 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodB(int m, int n){
    int  y = 0;
    y = y + this.y;
    x = this.y + 2 + temp;
    methodA(x, y);
    sum = x + y + sum;
    System.out.println(x + " " + y+ " " + sum);
  }
}
```

Consider the following code:

```
A a1 = new A();
B b1 = new B();
B b2 = new B(b1);
b1.methodA(1, 2);
b2.methodB(3, 2);
```

x	y	sum

Task 23

```
class A{
  public int temp = 4;
  public int sum;
  public int y;
  public A(){
    y = temp - 2;
```

```
    sum = temp + 3;
    temp-=2;
  }
  public void methodA(int m, int n){
    int x = 0;
    y = y + m + (temp++);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
}
class B{
  public int x;
  public int temp = -5;
  public int y = 3;
  public int sum = 2;
  public B(){
    y = temp + 3 ;
    sum = 3 + temp + 2;
    temp-=1;
  }
  public B(B b){
    sum = b.sum;
    x = b.x;
  }
  public void methodB(int m, int n){
    int  y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    methodA(x, y);
    sum = x + y + sum;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(int m, int n){
    int x = 0;
    y = y + m + (temp++);
    x = x + 2 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
}
```

Consider the following code:

```
A a1 = new A();
B b1 = new B();
B b2 = new B(b1);
a1.methodA(1, 1);
b1.methodA(1, 2);
b2.methodB(3, 2);
```

x	y	sum

Task 24

```
1  class A{
2    public int temp = 4;
3    public int sum = 1;
4    public int y = 2;
5    public A(){
6      y = temp - 2;
7      sum = temp + 3;
8      temp-=2;
9    }
10   public void methodA(int m, int n){
11     int x = 0;
12     y = y + m + (temp++);
13     x = x + 2 +  n;
14     sum = sum + x + y;
15     System.out.println(x + " " + y+ " " + sum);
16   }
17 }
18 class B{
19   public int x = 1;
21   public int y = 33;
22   public int temp = 7;
23   public int sum = 6;
24   public B(){
25     y = temp + 3 ;
26     sum = 3 + temp + 2;
27     temp-=1;
28   }
29   public B(B b){
30     sum = b.sum;
31     x = b.x;
32   }
33   public void methodA(int m, int n){
34     int x = 0;
35     y = y + m + (++temp);
36     x = x + 7 +  n;
37     sum = sum + x + y;
38     System.out.println(x + " " + y+ " " + sum);
     }
     public void methodB(int m, int n){
       int  y =0;
       y = y + this.y;
       x = this.y + 2 + temp;
       methodA(x, y);
       sum = x + y + this.sum;
```

```
        System.out.println(x + " " + y+ " " + sum);
    }
}
```

Consider the following code:

```
A a1 = new A();
B b1 = new B();
B b2 = new B(b1);
a1.methodA(1, 1);
b1.methodA(1, 2);
b2.methodB(3, 2);
```

x	Y	sum

Task 25

```
public class A{
    public int temp = 3;
    public int sum;
    public int y;
    public A(){
        y = temp - 1;
        sum = temp + 2;
        temp-=2;
    }
    public void methodA(int m, int [] n){
        int x = 0;
        y = y + m + (temp++);
        x = x + 2 +  (++n[0]);
        sum = sum + x + y;
        n[0] = sum + 2;
        System.out.println(x + " " + y+ " " + sum);
    }
}
public class B {
    public int x = 1;
    public int sum = 2;
    public int temp = 3;
    public int y = 5;
    public B(){
        y = temp + 1 ;
        x = 3 + temp + x;
        temp-=2;
    }
    public B(B b){
        sum = b.sum + sum;
        x = b.x + x;
    }
    public void methodA(int m, int [] n){
        int x = 0;
        y = y + m + (temp++);
        x = x + 5 +  (++n[0]);
        sum = sum + x + y;
        n[0] = sum + 7;
        System.out.println(x + " " + y+ " " + sum);
    }
    public void methodB(int m, int n){
```

```
        int [] y = {0};
        this.y = y[0] + this.y + m;
        x = this.y + 2 + temp - n;
        methodA(x, y);
        sum = x + y[0] + this.sum;
        System.out.println(x + " " + y[0]+ " " + sum);
    }
}
```

Consider the following code:

```
int x[] = {23};
A a1 = new A();
B b1 = new B();
B b2 = new B(b1);
a1.methodA(1, x);
b2.methodB(3, 2);
a1.methodA(1, x);
```

Task 26

```
public class FinalT6A{
  public int temp = 4;
  private int sum;
  private int y = 1;
  public FinalT6A(int x, int p){
    temp+=1;
    y = temp - p;
    sum = temp + x;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2 + temp;
    sum = x + y + methodB(temp, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int temp, int n){
    int x = 0;
    y = y + (++temp);
    x = x + 3 +  n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output of the following code sequence?

```
FinalT6A q1 = new FinalT6A(2,1);
q1.methodA();
q1.methodA();
```

x	y	sum

Task 27

```
13. class msgClass{
14.   public int content;
15. }
```

```
173 public class Q5{
174   private int sum;
175   private int y;
176   public int x;
177   public Q5(){
178     sum = 3;
179     x = 1;
180     y = 6;
181   }
182   public void methodA(){
183     int x=1, y=1;
184     msgClass [] msg = new msgClass[1];
185     msgClass myMsg = new msgClass();
186     myMsg.content = this.x;
187     msg[0] = myMsg;
188     msg[0].content = this.y + myMsg.content;
189     this.y = this.y + methodB(msg[0]);
190     y = methodB(msg[0]) + this.y;
191     x = y + methodB(msg, msg[0]);
192     sum = x + y + msg[0].content;
193     System.out.println(x + " " + y+ " " + sum);
194   }
195   private int methodB(msgClass [] mg2, msgClass mg1){
196     int x = 1;
197     y = y + mg2[0].content;
198     mg2[0].content = y + mg1.content;
199     x = x + 3 + mg1.content;
```

```
200     sum = sum + x + y;
201     mg1.content = sum - mg2[0].content ;
202     System.out.println(this.x + " " + this.y+ " " + sum);
203     return sum;
204   }
205   private int methodB(msgClass mg1){
206     int x = 1, y = 1;
207     y = sum + mg1.content;
208     this.y = y + mg1.content;
209     x = this.x + 3 + mg1.content;
210     sum = sum + x + y;
211     this.x = mg1.content + x + 2;
212     System.out.println(x + " " + y+ " " + sum);
213     return y;
214   }
215 }
```

Write the output of the following code: [Answer on the question paper]

```
Q5 q = new Q5();
q.methodA();
```

x	y	sum