

class msg{
public int content;
}
public class Quiz8A{
public int sum;
public int y;
public void methodA(){
int x=0, y =0, i=0;
msg mg = new msg();
mg.content = 1;
while (i<3){
y = y + mg.content;
methodB(mg);
x = y + mg.content;
sum += x + y;
System.out.println(x + " " + y+ " " + sum);
i++;
}
}
private void methodB(msg mg2){
int x = 0;
y = y + mg2.content;
x = x + 3 + y;
sum = x + y;
mg2.content = x;
System.out.println(x + " " + y+ " " + sum);
}
}

Write the output if you excute methodA() on an instance of class Quiz8A:

X	Y	sum
---	---	-----

class msg{
public int content;
}
public class Quiz8B{
public int sum;
public int y;
public void methodA(){
int x=0, y =0, i=0;

msg mg = new msg();
mg.content = 2;
while (i<3){
y = y + mg.content;
methodB(mg);
x = y + mg.content;
sum = x + y;
System.out.println(x + " " + y+ " " + sum);
i++;
}
}
private void methodB(msg mg2){
int x = 0;
y = y + mg2.content;
x = x + 2 + y;
sum += x + y;
mg2.content = x;
System.out.println(x + " " + y+ " " + sum);
}
}

Write the output if you excute methodA() on an instance of class Quiz8B:

X	Y	sum
---	---	-----

```

//*****
*****
//Run the methodA() on an Instance of Test2 three times and explain
the answer.
//*****
*****
class msg{
    public int content;
}
public class Test2{
    public int sum;
    public int y;

    public void methodA(){
        int x=0, y =0;
        msg mg = new msg();
        mg.content = 5;
        y = y + mg.content;
        methodB(mg);
        x = y + mg.content;
        sum = x + y;
        System.out.println(x + " " + y+ " " + sum);
    }
    private void methodB(msg mg2){
        int x = 0;
        y = y + mg2.content;

```

```

        x = x + 33 + y;
        sum = sum + x + y;
        mg2.content = x;
        System.out.println(x + " " + y+ " " + sum);
    }
}

```

```
//*****
```

```

.
//*****
***
//Create a instance of Test5 with the command Test5 t5 = new
Test5();
//Run the methodA() on an Instance of Test5 four times and explain
the answer.
//Create a instance of Test5 with the command Test5 t5 = new
Test5(2,3);
//Run the methodA() on an Instance of Test5 four times and explain
the answer.
//*****
*****
public class Test5{
    private int sum;
    private int y;
    private int x;
    public Test5(){
        sum = 1;
        y = 1;
    }
    public Test5(int x, int p){
        sum = x;
        y = p;
    }
    public void methodA(){
        int x=0;
        int [] msg = new int[1];
        msg[0] = 5;
        y = y + methodB(msg, msg[0]);
        x = y + methodB(methodB(msg, msg[0]), msg[0]);
        sum = x + y + msg[0];
        System.out.println(this.x + " " + y+ " " + sum);
    }
    private int methodB(int [] mg2, int y){
        int x = 0;
        this.y = y - mg2[0];
        this.x = x - 33 + y;
        x = y + this.y;
        sum = sum - x + y;
        mg2[0] = y - sum;
        System.out.println(x + " " + y+ " " + sum);
        return mg2[0];
    }
    private int methodB(int sum, int mg1){
        int x = 0;

```

```

Output:
5 5 1
4 4 1
36 -1 38
-29 -1 3
5 5 3
2 2 3
32 -3 28
-31 -3 -5
5 5 -5
10 10 -5
48 5 68
-23 5 17
5 5 17
-12 -12 17
4 -17 -42
-45 -17 -41
=====

```

```

        y = y - this.sum;
        x = x + 33 + mg1;
        sum = sum + x + y;
        mg1 = y - mg1;
        System.out.println(x + " " + y + " " + sum);
        return mg1;
    }
}
//*****

```

Create a class called `Student` as described below:

- **Fields:**
name, id, address, cgpa
- **Methods:**

```

public String getName()
public void setName(String n)
public String getID()
public void setID(String i)
public String getAddress()
public void setAddress(String a)
public double getCGPA()
public void setCGPA(double c)

```

Write a class called `StudentTester` to write a `main()` method:

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

  

```
}
```
- Inside the `main()` method
  - Create 3 objects/instances of `Student` called john, mike and carol
  - Set their fields to some value using the public methods.
  - Print the information of each `Student` using `System.out.println()`

Create a class called `Square` as described below:

- **Fields:**  
height, width
- **Methods:**  

```

public double getHeight()
public void setHeight(double h)
public double getWidth ()
public void setWidth (double w)
public double getArea ()

```

**Hint: If I take your class and use it following would be the code and the output.**

| Code                                                   | Output                                |
|--------------------------------------------------------|---------------------------------------|
| <pre> double h, w, a; Square s1 = new Square(); </pre> | <pre> Height = 3.0 Width = 4.0 </pre> |

|                                                                                                                                                                                                               |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <pre>s1.setHeight(3); s1.setWidth(4); h = s1.getHeight(); w = s1.getWidth(); a = s1.getArea(); System.out.println("Height = "+ h); System.out.println("Width = "+ w); System.out.println("Area = "+ a);</pre> | <pre>Area = 12.0</pre> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|

|                              |
|------------------------------|
| class Fun{                   |
| int x;                       |
| void methodA(){              |
| int z;                       |
| x=5;                         |
| z=x+methodB(x);              |
| System.out.println(x+" "+z); |
| z=methodB(z+2)+x;            |
| System.out.println(x+" "+z); |
| methodB(x,z);                |
| System.out.println(x+" "+z); |
| }                            |
| int methodB(int y){          |
| x=y+x;                       |
| System.out.println(x+" "+y); |
| return x+3;                  |
| }                            |
| void methodB(int z, int x){  |
| z=z+1;                       |
| x=x+1;                       |
| System.out.println(z+" "+x); |
| }                            |
| }                            |

What is the output if you execute the class test on an instance of the Fun Class?

|                                       |
|---------------------------------------|
| Class test{                           |
| public static void main(String[]args) |
| {                                     |
| Fun f = new Fun();                    |
| f.methodA();                          |
| f.methodA();                          |
| f=new Fun();                          |

|               |
|---------------|
| f.methodA();  |
| f.methodB(7); |
| }             |
| }             |

---

```

//*****

//Run the methodA() on an Instance of Test7 three times and explain
the answer.
//*****

class msgClass{
 public int content;
}
public class Test7{
 private int sum;
 private int y;
 public int x;
 public Test7(){
 sum = 8;
 x = 2;
 y = 4;
 }
 public void methodA(){
 int x=0, y =0;
 msgClass [] msg = new msgClass[1];
 msgClass myMsg = new msgClass();
 myMsg.content = this.x;
 msg[0] = myMsg;
 msg[0].content = this.y + myMsg.content;
 this.y = this.y + methodB(msg[0]);
 y = methodB(msg[0]) + this.y;
 x = y + methodB(msg, msg[0]);
 sum = x + y + msg[0].content;
 System.out.println(x + " " + y+ " " + sum);
 }
 private int methodB(msgClass [] mg2, msgClass mg1){
 int x = 0;
 y = y + mg2[0].content;
 mg2[0].content = y + mg1.content;
 x = x + 33 + mg1.content;
 sum = sum + x + y;
 mg1.content = sum - mg2[0].content ;
 System.out.println(this.x + " " + this.y+ " " + sum);
 return sum;
 }
 private int methodB(msgClass mg1){
 int x = 0;

```

```

 int y = 0;
 y = sum + mg1.content;
 this.y = y + mg1.content;
 x = this.x + 33 + mg1.content;
 sum = sum + x + y;
 this.x = mg1.content + x + 2;
 System.out.println(x + " " + y+ " " + sum);
 return y;
 }
}

//*****

//*****

//Run the methodA() and methodB on an Instance of Test once per
method and trace the program.
//*****

public class Test{
 public int sum;
 public int y;
 public void methodA(){
 int x=0, y =0;
 y = y + 7;
 x = y + 11;
 sum = x + y;
 System.out.println(x + " " + y+ " " + sum);
 }
 public void methodB(){
 int x = 0;
 y = y + 11;
 x = x + 33 + y;
 sum = sum + x + y;
 System.out.println(x + " " + y+ " " + sum);
 }
}

//*****

```

Consider the following code:

|                              |
|------------------------------|
| public class QuizB{          |
| public int sum;              |
| public int y;                |
| public void methodA(){       |
| int x=0, y =0;               |
| y = y + this.y;              |
| x = this.y + 2;              |
| sum = x + y + methodB(x, y); |

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

What is the output if you execute the methodA() 5 times on an instance of the QuizB Class?

| x | y | Sum |
|---|---|-----|
|---|---|-----|

```
//*****

//Run the methodA() on an Instance of Test3 five times and explain
the answer.
//*****

public class Test3{
 public int sum;
 public int y;

 public void methodA(){
 int x=2, y =3;
 int [] msg = new int[1];
 msg[0] = 3;
 y = this.y + msg[0];
 methodB(msg, msg[0]);
 x = this.y + msg[0];
 sum = x + y + msg[0];
 System.out.println(x + " " + y+ " " + sum);
 }
 private void methodB(int [] mg2, int mg1){
 int x = 0;
 y = this.y + mg2[0];
 x = x + 33 + mg1;
 sum = sum + x + y;
 mg2[0] = y + mg1;
 mg1 = mg1 + x + 2;
 System.out.println(x + " " + y+ " " + sum);
 }
}

//*****
```



```

//*****

//Run the methodA() on an Instance of Test4 five times and explain
the answer.
//*****

public class Test4{
 public int sum;
 public int y;

 public void methodA(){
 int x=0, y =0;
 int [] msg = new int[1];
 msg[0] = 5;
 y = y + methodB(msg[0]);
 x = y + methodB(msg, msg[0]);
 sum = x + y + msg[0];
 System.out.println(x + " " + y+ " " + sum);
 }
 private int methodB(int [] mg2, int mg1){
 int x = 0;
 y = y + mg2[0];
 x = x + 33 + mg1;
 sum = sum + x + y;
 mg2[0] = y + mg1;
 mg1 = mg1 + x + 2;
 System.out.println(x + " " + y+ " " + sum);
 return sum;
 }
 private int methodB(int mg1){
 int x = 0;
 int y = 0;
 y = y + mg1;
 x = x + 33 + mg1;
 sum = sum + x + y;
 this.y = mg1 + x + 2;
 System.out.println(x + " " + y+ " " + sum);
 return y;
 }
}

//*****

```

---

```

//*****

//Run the methodA() Twice on an Instance of Test6 and
//explain the answer.
//*****

public class Test6{
 public int sum;
 public int y;

```

```

public int x;
public void methodA(){
 int y =0;
 int i = 0;
 int [] msg = new int[5];
 msg[0] = 5;
 while (i < 3) {
 msg[i] = i + 2;
 y = y + methodB(msg, i);
 x = y + methodB(msg);
 sum = x + y + msg[0];
 System.out.println(x + " " + y+ " " + sum);
 i++;
 }
}
private int methodB(int [] mg2){
 int x = 0;
 int y = 22;
 this.y = y + mg2[this.y % 5];
 x = x + (this.y / 3) - mg2[sum % 5];
 sum = sum + x + y;
 System.out.println(x + " " + this.y+ " " + sum);
 return sum;
}
private int methodB(int[] mg1, int i){
 int x = 0;
 int j = 0;
 while (j <= i){
 mg1[i] = mg1[i] + mg1[j];
 j++;
 }
 return mg1[i];
}
}
//*****

```

---

```

/*
What is the output for the following code sequence?
FinalT3A fT3A = new FinalT3A();
fT3A.methodA();
fT3A.methodB(6,8);
*/

```

```

public class FinalT3A{
 public int sum;

```

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

---

What is the output if you execute the methodA on an instance of the Quiz9A Class?

```
public class Quiz9A{
 public int sum;
 public int y;
 public void methodA(){
 int x=0;
 int z = 0;
 while (z < 5){
 y = y + sum;
 x = y + 1;
 System.out.println(x + " " + y+ " " + sum);
 sum = sum + methodB(x, y);
 z++;
 }
 }
 public int methodB(int m, int n){
 int x = 0;
 int sum = 0;
 y = y + m;
 x = n - 4;
 sum = sum + y;
 System.out.println(x + " " + y+ " " + sum);
 return sum;
 }
}
```

---

```
public class Quiz9A{
 public int sum;
 public int y;
 public void methodA(){
 int x=0;
 int z = 0;
 while (z < 5){
 y = y + sum;
 x = y + 1;
 System.out.println(x + " " + y+ " " + sum);
 sum = sum + methodB(x, y);
 z++;
 }
 }
 public int methodB(int m, int n){
 int x = 0;
 int sum = 0;
 y = y + m;
 x = n - 4;
 sum = sum + y;
 System.out.println(x + " " + y+ " " + sum);
 return sum;
 }
}
```

```
}
```

What is the output if you execute the methodA on an instance of the Quiz9A Class?

| x | y | Sum |
|---|---|-----|
|---|---|-----|

Consider the following code:

```
public class Test3{
 public int sum;
 public int y;
 public void methodA(){
 int x=0, y =0, i=0;
 int [] msg = new int[1];
 while (i < 5) {
 msg[0] = i + 1;
 y = y + msg[0];
 methodB(msg, msg[0]);
 x = y + msg[0] + i;
 sum = x + y + msg[0];
 System.out.println(x + " " + y+ " " + sum);
 i++;
 }
 }
 private void methodB(int [] mg2, int mg1){
 int x = 0;
 y = y + mg2[0];
 x = x + 5+ mg1;
 sum = sum + x + y;
 mg2[0] = y + mg1;
 mg1 = mg1 + x + 2;
 System.out.println(x + " " + y+ " " + sum);
 }
}
```

What is the output if you execute the methodA() on an instance of the Test3 Class?

| x | y | sum |
|---|---|-----|
|---|---|-----|

```
public class Quiz9A{
```

```

public int sum;
public int y;
public void methodA(){
 int x=0;
 int z = 0;
 while (z < 5){
 y = y + sum;
 x = y++;
 System.out.println(x + " " + y+ " " + sum);
 sum = sum + methodB(x, y);
 z++;
 }
}
public int methodB(int m, int n){
 int x = 0;
 int sum = 0;
 y = y + m;
 x = n - 4;
 sum = sum + y;
 System.out.println(x + " " + y+ " " + sum);
 return sum;
}
}

```

What is the output if you execute the methodA on an instance of the Quiz9A Class?

| x | y | Sum |
|---|---|-----|
|---|---|-----|

Consider the following code:

|                                             |
|---------------------------------------------|
| public class Test3B{                        |
| public int sum;                             |
| public int y;                               |
| public void methodA(){                      |
| int x=0, y =0, i=0;                         |
| int [] msg = new int[1];                    |
| while (i < 5) {                             |
| msg[0] = i + 2;                             |
| y = y + msg[0];                             |
| methodB(msg, msg[0]);                       |
| x = y + msg[0] + i;                         |
| sum = x + y + msg[0];                       |
| System.out.println(x + " " + y+ " " + sum); |
| i++;                                        |
| }                                           |
| }                                           |
| private void methodB(int [] mg2, int mg1){  |
| int x = 0;                                  |

|                                             |
|---------------------------------------------|
| y = y + mg2[0];                             |
| x = x + 4+ mg1;                             |
| sum = sum + x + y;                          |
| mg2[0] = y + mg1;                           |
| mg1 = mg1 + x + 1;                          |
| System.out.println(x + " " + y+ " " + sum); |
| }                                           |
| }                                           |

What is the output if you execute the methodA() on an instance of the Test3B Class?

|   |   |     |
|---|---|-----|
| x | y | sum |
|---|---|-----|

|                                             |
|---------------------------------------------|
| public class Quiz9B{                        |
| public String sum="";                       |
| public int y;                               |
| public void methodA(){                      |
| int x=0;                                    |
| int z = 0;                                  |
| while (z < 5){                              |
| y = y * 3%5;                                |
| x = y + 2;                                  |
| System.out.println(x + " " + y+ " " + sum); |
| sum = sum + methodB(x, y);                  |
| z++;                                        |
| }                                           |
| }                                           |
| public String methodB(int m, int n){        |
| int x = 0;                                  |
| String sum = "0";                           |
| y = y + m;                                  |
| x = n - 2;                                  |
| sum = sum + y;                              |
| System.out.println(x + " " + y+ " " + sum); |
| return sum;                                 |
| }                                           |
| }                                           |

What is the output if you execute the methodA on an instance of the Quiz9B Class?

|   |   |     |
|---|---|-----|
| x | y | Sum |
|---|---|-----|

Run the methodA() Twice on an Instance of assin6 and explain the answer.

|                                                  |
|--------------------------------------------------|
| public class assin6{                             |
| public int sum;                                  |
| public int y;                                    |
| public int x;                                    |
| public void methodA(){                           |
| int y =0;                                        |
| int i = 0;                                       |
| int [] msg = new int[5];                         |
| msg[0] = 5;                                      |
| while (i < 5) {                                  |
| msg[i] = i + 2;                                  |
| y = y + methodB(msg, i);                         |
| x = y + methodB(msg);                            |
| sum = x + y + msg[0];                            |
| System.out.println(x + " " + y+ " " + sum);      |
| i++;                                             |
| }                                                |
| }                                                |
| private int methodB(int [] mg2){                 |
| int x = 0;                                       |
| int y = 22;                                      |
| this.y = y + mg2[this.y % 5];                    |
| x = x + (this.y / 3) - mg2[sum % 5];             |
| sum = sum + x + y;                               |
| System.out.println(x + " " + this.y+ " " + sum); |
| return sum;                                      |
| }                                                |
| private int methodB(int[] mg1, int i){           |
| int x = 0;                                       |
| int j = 0;                                       |
| while (j <= i){                                  |
| mg1[i] = mg1[i] + mg1[j];                        |
| j++;                                             |
| }                                                |
| return mg1[i];                                   |
| }                                                |



```
}
```

Consider the following class:

```
public class Human{
 public int age;
 public double height;
}
```

Show the output of the following sequence of statements:

| Human h1 = new Human();<br>Human h2 = new Human();<br>h1.age = 20;<br>h1.height = 3.5;<br>System.out.println(h1.age);<br>System.out.println(h1.height);<br>h2.height = h1.height - 2;<br>System.out.println(h2.height);<br>h2.age = h1.age++;<br>System.out.println(h1.age);<br>h2 = h1;<br>System.out.println(h2.age);<br>System.out.println(h2.height);<br>h2.age++;<br>h2.height++;<br>System.out.println(h1.age);<br>System.out.println(h1.height);<br>h1.age = ++h2.age;<br>System.out.println(h2.age);<br>System.out.println(h2.height); | Output |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |

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|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

---

the following class:

```
public class Human{
 public int age;
 public double height;
}
```

Show the output of the following sequence of statements:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <pre>Human h1 = new Human(); Human h2 = new Human(); h1.age = 29; h1.height = 7.5; System.out.println(h1.age); System.out.println(h1.height); h2.height = h1.height; System.out.println(h2.height); h2.age = 23; System.out.println(h1.age); h2.height = h2.height + 1; System.out.println(h2.height); h2 = h1; System.out.println(h2.age); System.out.println(h2.height); h2.age++; h2.height++; System.out.println(h1.age); System.out.println(h1.height); h1.age = ++h2.age; System.out.println(h2.age);</pre> | Output |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |

[illegible]