بِسْمِ اللَّـهِ الرَّحْمَـٰنِ الرَّحِيمِ

Expected output questions

إيمان الغلبان، أصيل قدح

```java
public class St {

   public  static void main(String[] args) {


    char letter = 'a';
    int asciiCode= (int)letter;
    System.out.println(asciiCode);


   }
   }
```

A- 65
B- compilation error
C- 97
D- 0
E- a

```java
public class St {

   public  static void main(String[] args) {


    char letter = 'a';
    int asciiCode= (int)letter;
    System.out.println(asciiCode);


   }
   }
```

A- 65
B- compilation error
C- 97
D- 0
E- a

بطبع الـ ascii code للحرف عشان عامل casting .

```
public class St {

   public  static void main(String[] args) {


    String a = "the case mapping of strings is consistent";
    String b = "THE CASE MAPPING OF STRING IS CONSISTENT";
    if(a==b)
      System.out.println("0");
    else
      System.out.println(a.compareTo(b));

   }
   }
```

A- none
B- 32
C- 0
D- 1
E- 64

```java
public class St {

   public  static void main(String[] args) {


    String a = "the case mapping of strings is consistent";
    String b = "THE CASE MAPPING OF STRING IS CONSISTENT";
    if(a==b)
      System.out.println("0");
    else
      System.out.println(a.compareTo(b));

   }
   }
```

A- none
B- 32
C- 0
D- 1
E- 64

بطبع الـفرق في الـ ascii code بين الحرفين .

```java
public class St {
   public  static void main(String[] args) {
    int x = 1;
    System.out.println(x);
    increment (x);
    System.out.println(x);
   }
   public static void increment (int n) {
     System.out.println(++n);
   }
   }
```

A- 222
B- 121
C- compiling error
D- 212
E- 111

```java
public class St {
   public  static void main(String[] args) {
    int x = 1;
    System.out.println(x);
    increment (x);
    System.out.println(x);
   }
   public static void increment (int n) {
     System.out.println(++n);
   }
   }
```

A- 222
B- 121
C- compiling error
D- 212
E- 111

التغيير عليها بصير في الـ method بس

```java
public class St {
   public  static void main(String[] args) {
    System.out.print(sayHi(1,2))

   }
   public static double sayHi (int num1, double num2) {
     System.out.println("hi");
   }
   public static double sayHi (double num1, int num2) {
     System.out.println("hi");
   }
   }
```

Which method would be invoked?

A- first one.
B- second one.
C- compile cannot decide.
D- none.

```java
public class St {
   public  static void main(String[] args) {
    System.out.print(sayHi(1,2))

   }
   public static double sayHi (int num1, double num2) {
     System.out.println("hi");
   }
   public static double sayHi (double num1, int num2) {
     System.out.println("hi");
   }
   }
```

Which method would be invoked?

A- first one.
B- second one.
C- compile cannot decide.
D- none.

مش رح ينفذ اي ميثود ، في syntax error لأني معرفهم
برجعوا قيمة double بس فش فيهم return

```java
public class St {
   public  static void main(String[] args) {
    float x = (5+3*4)/2;
    System.out.print(x);
   }
}
```

A- 8.0
B- 8.5
C- 16.0
D- 9.0

```java
public class St {
   public  static void main(String[] args) {
    float x = (5+3*4)/2;
    System.out.print(x);
   }
}
```

A- 8.0
B- 8.5
C- 16.0
D- 9.0

الـ float بعطي قيمة integer الا اذا انا حددتله عدد المنازل اللي بدي ياها ،
وفي الحالتين بطبع ع شكل double

```java
public class St{

public static void main(String[] args) {
System.out.println(max(1,2));

}

public static double max( int num1 , double num2) {

System.out.println("max (int, double) is invoked");

if(num1>num2)
return num1;
else
return num2;


}
public static double max( double num1 , int num2) {

System.out.println("max (double, int) is invoked");

if(num1>num2)
return num1;
else
return num2;


}
}
```

```java
public class St{

public static void main(String[] args) {
System.out.println(max(1,2));

}

public static double max( int num1 , double num2) {

System.out.println("max (int, double) is invoked");

if(num1>num2)
return num1;
else
return num2;


}
public static double max( double num1 , int num2) {

System.out.println("max (double, int) is invoked");

if(num1>num2)
return num1;
else
return num2;


}
}
```


Ambiguous method

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    course.concat(" is the top ");
    System.out.print(course);
   }
}
```

A- dr bashar
B- dr Bashar is the top
C- is the top
D- course

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    course.concat(" is the top ");
    System.out.print(course);
   }
}
```

A- dr bashar
B- dr Bashar is the top
C- is the top
D- course

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    course.concat(" is the top ");
    System.out.print(course);
   }
}
```

A- dr bashar
B- dr Bashar is the top
C- is the top
D- course

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    String x = course.concat(" is the top ");

    System.out.print(x);
   }
}
```

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    course.concat(" is the top ");
    System.out.print(course);
   }
}
```

A- dr bashar
B- dr Bashar is the top
C- is the top
D- course

```java
public class St {
   public  static void main(String[] args) {
    String course = "dr bashar ";
    String x = course.concat(" is the top ");

    System.out.print(x);
   }
}
```

```java
public class St {
   public  static void main(String[] args) {
    for(int i = 0; i<5; i++) {
      if(i == 2 || i==5)
        System.out.print(i+" ");
    }
   }
}
```

A- 2 3
B- 1 2 3 4
C- 2
D- 2 5

```java
public class St {
   public  static void main(String[] args) {
    for(int i = 0; i<5; i++) {
      if(i == 2 || i==5)
        System.out.print(i+" ");
    }
   }
}
```

A- 2 3
B- 1 2 3 4
C- 2
D- 2 5

```java
public class St {
   public  static void main(String[] args) {
    String a = "hello";
    String b = new String (a);
    if (a==b) {
      System.out.print("A");
    }
    else {
      System.out.print("B");
    }

   }
}
```

A- A
B- B
C- compile error
D- false

```java
public class St {
   public  static void main(String[] args) {
    String a = "hello";
    String b = new String (a);
    if (a==b) {
      System.out.print("A");
    }
    else {
      System.out.print("B");
    }

   }
}
```

A- A
B- B
C- compile error
D- false

```java
public class St {
   public  static void main(String[] args) {
    int x = 5;
    System.out.print(x + ","+ x++ + "," + ++x + ","+ x++);

   }
}
```

A- 5,6,7,7
B- 5,5,7,7
C- 5,5,5,5
D- 5,6,7,8

```java
public class St {
   public  static void main(String[] args) {
    int x = 5;
    System.out.print(x + ","+ x++ + "," + ++x + ","+ x++);

   }
}
```

A- 5,6,7,7
B- 5,5,7,7
C- 5,5,5,5
D- 5,6,7,8

```java
public class St {
   public  static void main(String[] args) {
    int a = 1;
    int b = 3;
    int c = a^b;
    System.out.print(c);

   }
}
```

A- 1
B- 4
C- 2
D- 3

```java
public class St {
   public  static void main(String[] args) {
    int a = 1;
    int b = 3;
    int c = a^b;
    System.out.print(c);

   }
}
```

A- 1
B- 4
C- 2
D- 3

^ = XOR operator
بحول لـ binary وبعمل XOR

```java
public class St {
   public  static void main(String[] args) {
    int i=1;
    while(i++ <7) {
      System.out.println("hello");
      if(i==3)
        continue;
      System.out.println("hi");
    }
    System.out.println("bye");
   }
}
```

Output:

```
hello
hi
hello
hello
hi
hello
hi
hello
hi
hello
hi
bye
```

```java
public class St {
   public  static void main(String[] args) {
    double X=3;
    x++;
    System.out.print("X" + ++x);
   }
}
```

A- undefined variable error
B- x = 5.0
C- x = 5
D- x = 4.0

```java
public class St {
   public  static void main(String[] args) {
    double X=3;
    x++;
    System.out.print("X" + ++x);
   }
}
```

A- undefined variable error
B- x = 5.0
C- x = 5
D- x = 4.0

```java
public class St {
   public  static void main(String[] args) {
    printMessage('a');
   }

   public static void printMessage(String message) {
     System.out.println("String message "+ message);

   }

   public static void printMessage(int  number) {
     System.out.println("integer message "+ number);

   }


}
```

A- a
B- integer message 97
C- string messsage a
D- none

```java
public class St {
   public  static void main(String[] args) {
    printMessage('a');
   }

   public static void printMessage(String message) {
     System.out.println("String message "+ message);

   }

   public static void printMessage(int  number) {
     System.out.println("integer message "+ number);

   }


}
```

A- a
B- integer message 97
C- string messsage a
D- none

```java
public class St {
   public  static void main(String[] args) {
     int x = 7, y=3,z=6;

     z=hi(7,3);
     System.out.println("x="+ x);
   }

   static int  hi (int x, int y) {
     x+=3;
     return x;
   }
}
```

A- 7
B- 10
C- 3
D- 6

```java
public class St {
   public  static void main(String[] args) {
     int x = 7, y=3,z=6;

     z=hi(7,3);
     System.out.println("x="+ x);
   }

   static int  hi (int x, int y) {
     x+=3;
     return x;
   }
}
```

A- 7
B- 10
C- 3
D- 6

x is a local variable in the **main** method,
and the changes made to **x**
inside the **hi** method are confined
to the scope of the **hi** method.

```java
public class St {
   public  static void main(String[] args) {
     int x =3;
     switch (x) {
     case 1: System.out.println(x);
     case 2: System.out.println(2*x);
     case 3: System.out.println(++x);
     case 4: System.out.println(2*5);
     }
   }
}
```

A- 4 10
B- 3 6 4 10
C- 4
D- 10

```java
public class St {
   public  static void main(String[] args) {
     int x =3;
     switch (x) {
     case 1: System.out.println(x);
     case 2: System.out.println(2*x);
     case 3: System.out.println(++x);
     case 4: System.out.println(2*5);
     }
   }
}
```

A- 4 10
B- 3 6 4 10
C- 4
D- 10

```java
public class St {
   public  static void main(String[] args) {
    int number1 = (int)(Math.random()*100);
    int number2 = (int)(Math.random()*100);
    int temp = number1;
    number1=number2;
    number2=temp;
    System.out.print(number1==number2);
   }
}
```

A- true
B- false
C- error
D- none

write a java project that has a method named "sum", the method finds the sums of the even and the odd digits in your university ID

write a java project that has a method named "sum", the method finds the sums of the even and the odd digits in your university ID

```java
public static void main(String[] args) {
    // TODO Auto-generated method stub
    sum(1220611); // odd = 1+1+1=3, even = 2+2+6+0= 10
    }

  public static void sum(int ID) {
    int oddSum = 0;
    int evenSum = 0;
    int digit= 0;

    while (ID!=0) {
      digit= ID%10;
      if (digit%2==0) {

        evenSum += digit;
      }
      else {
        oddSum +=digit;
      }
      ID=ID/10;
    }
    System.out.println(" the even digits sum is " + evenSum);
    System.out.println(" the odd digits sum is " + oddSum);
  }
}
```

recursion

```
public class Recursion {
  public static void main(String[] args) {
    p();
     }

  static void p(){
      System.out.println("hello");
      p();
      }
}
```

```java
public static int h(int n) {

  if (n==0) {
    return 1;
  }
  return 3*h(n-1);
}


}
```

A) Invoking h(0) retums 0.

B) Invoking h(1) leads method to run infinitely and causes a StackOverflowError

c) invoking h(2) returns 6.

D) Invoking h(3) returns 27.

```
public static int h(int n) {

  if (n==0) {
    return 1;
  }
  return 3*h(n-1);
}


}
```

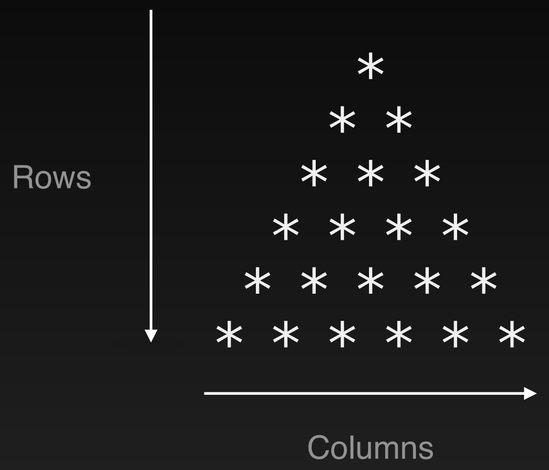
A) Invoking h(0) retums 0.

B) Invoking h(1) leads method to run infinitely and causes a StackOverflowError

c) invoking h(2) returns 6.

D) Invoking h(3) returns 27.

Patterns



Lines (Rows)	Spaces	Stars
١	٤	١
٢	٣	٢
٣	٢	٣
٤	١	٤
٥	٠	٥

i j

J = 5-1

Patterns

Lines (Rows)	Spaces	Stars
١	٤	١
٢	٣	٢
٣	٢	٣
٤	١	٤
٥	٠	٥

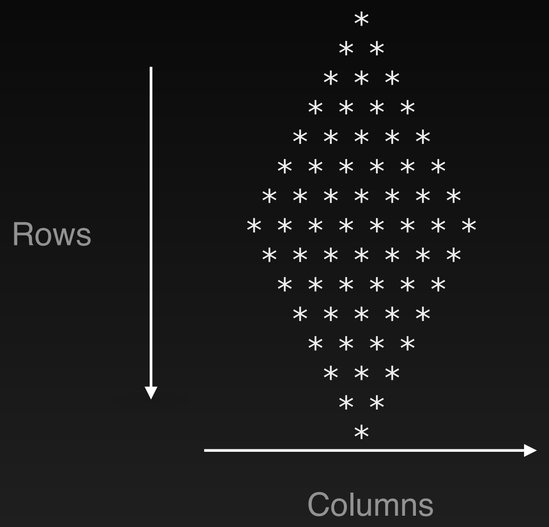
i j

J = 5-1

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

    for(int i=1; i<=5;i++) {
      for(int j=1; j<=5-i;j++) {
        System.out.print(" ");
      }
      for (int k =1; k<=i;k++) {
        System.out.print(" *");
      }
      System.out.println();
    }
    }
}
```

Patterns




```
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * * * *
* * * * * * * *
* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*
```

Lines (Rows)	Spaces	Stars
١	٧	١
٢	٦	٢
٣	٥	٣
٤	٤	٤
٥	٣	٥
٦	٢	٦
٧	١	٧
٨	٠	٨
i	j	k