

Note:

1. The **Ans** section contains the program /coding part [which you have to write in your IDE to get the output.]
2. Only the questions which aren't written with the output contain the output after their **Ans**
3. Output which is written with the question is in this style text.

Q1. Write a java program to display following messages.

```
Hello World!
Hello Again
I like typing this.
This is fun.
Yay! Printing.
I'd much rather you 'not'.
I "said" do not touch this.
```

Ans.

```
public class A1Q1 {
    public static void main(String[] args) {
        System.out.println("Hello World!");
        System.out.println("Hello Again");
        System.out.println("I like typing this.");
        System.out.println("This is fun.");
        System.out.println("Yay! Printing.");
        System.out.println("I'd much rather you 'not'.");
        System.out.println("I \"said\" do not touch this.");
    }
}
```

Q2. Write a java program that displays your name and address on the screen as if it were a letter. Your output should look something like that below.

```
+-----+
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
|                                             |
+-----+
```

```

Biswanath Dash
H.N:109, Baramunda
Bhubaneswar
```

Ans

```

public class A1Q2 {
    public static void main(String[] args) {
        System.out.println("+-----+");
        System.out.println(" |          ##### |");
        System.out.println(" |          ##### |");
        System.out.println(" |          ##### |");
        System.out.println(" |          |");
        System.out.println(" |          |");
        System.out.println(" |          |");
        System.out.println(" |      Biswanath Dash |");
        System.out.println(" |      H.N: 109, Baramunda |");
        System.out.println(" |      Bhubaneswar      |");
        System.out.println(" |          |");
        System.out.println("+-----+");
    }
}

```

Q3

Write a java program to display your initials on the screen in block letters as shown. For example the name Tapan Kumar

```

TTTTTTTTT   K       K
  T         K   K
  T         K K
  T         K
  T         K K
  T         K   K
  T         K       K

```

Ans

```

public class A1Q3 {
    public static void main(String[] args) {
        System.out.println("TTTTTTTTT   K       K ");
        System.out.println("  T         K   K ");
        System.out.println("  T         K K   ");
        System.out.println("  T         K     ");
        System.out.println("  T         K K   ");
        System.out.println("  T         K   K ");
        System.out.println("  T         K       ");
    }
}

```

Q4

Write a java program to print an equilateral triangle using star '*'.

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

Ans

```
public class A1Q4 {
    public static void main(String[] args) {
        System.out.println("    *    ");
        System.out.println("   * *   ");
        System.out.println("  * * *  ");
        System.out.println(" * * * * ");
        System.out.println("***** ");
    }
}
```

Q5

Write a java program that stores your Regd. No and year of admission into two variables, and displays their values on the screen.

My Regd. No is 201123142 and I have taken admission in B. Tech in 2020.

Ans

```
public class A1Q5 {
    public static void main(String[] args) {
        int regdno = 201123142;
        int year = 2020;
        System.out.println("My Regd. No. is "+ regdno + " and I have taken admission in B.Tech in " + year);
    }
}
```

Q6

Let we have two values 113, 2.71828. Then, declare two different variables to hold the given values. Write the java program to display the values of these two variables on the screen, one per line.

This is room # 113
e is close to 2.71828

Ans

```
public class A1Q6 {
    public static void main(String[] args) {
        double e=2.71828;
        int a=113;
        System.out.println("This is room # "+a);
        System.out.println("e is close to "+e);
    }
}
```

Q7

Write a java program to exchange the values of two variables of integer type A and B using third temporary variable C.

Ans

```
public class A1Q7 {  
    public static void main(String[] args) {  
        int a,b,c;  
        a=5;  
        b=10;  
        System.out.println("Before swapping a = "+a+",b = "+b);  
        c=a;  
        a=b;  
        b=c;  
        System.out.println("After swapping a = "+a+",b = "+b);  
    }  
}
```

Output

Before Swapping a = 5, b = 10

After Swapping a = 10, b = 5

Q8

Write a java program to exchange the values of two variables of integer type A and B without using third temporary variable.

Ans

```
public class A1Q8 {  
    public static void main(String[] args) {  
        int a=10;  
        int b=20;  
        System.out.println("Before swapping a=" +a+", b=" +b);  
        a=a+b;  
        b=a-b;  
        a=a-b;  
        System.out.println("After swapping a=" +a+", b=" +b);  
    }  
}
```

Output

Before swapping a=10, b=20

After swapping a=20, b=10

Q9

What do each of the following print?

- a. `System.out.println(2 + "bc");`
- b. `System.out.println(2 + 3 + "bc");`
- c. `System.out.println((2+3) + "bc");`
- d. `System.out.println("bc" + (2+3));`
- e. `System.out.println("bc" + 2 + 3);`

Ans

```
public class A1Q9 {  
    public static void main(String[] args) {  
        System.out.println(2 + "bc");  
        System.out.println(2 + 3 + "bc");  
        System.out.println((2+3) + "bc");  
        System.out.println("bc" + (2+3));  
        System.out.println("bc" + 2 + 3);  
    }  
}
```

Output

```
2bc  
5bc  
5bc  
bc5  
bc23
```

Q10

What do each of the following print?

- a. `System.out.println('b');`
- b. `System.out.println('b' + 'c');`
- c. `System.out.println((char) ('a' + 4));`

Ans

```
public class A1Q10 {  
    public static void main(String[] args) {  
        System.out.println('b');  
        System.out.println('b' + 'c');  
        System.out.println((char) ('a' + 4));  
    }  
}
```

Output

```
b  
197  
e
```

Q11

Suppose that a variable a is declared as `int a = 2147483647` (or equivalently, `Integer.MAX_VALUE`). What do each of the following print?

- a. `System.out.println(a);`
- b. `System.out.println(a+1);`
- c. `System.out.println(2-a);`
- d. `System.out.println(-2-a);`
- e. `System.out.println(2*a);`
- f. `System.out.println(4*a);`

Ans

```
public class A1Q11 {  
    public static void main(String[] args) {  
        int a = Integer.MAX_VALUE; //a = 2147483647  
        System.out.println(a);  
        System.out.println(a+1);  
        System.out.println(2-a);  
        System.out.println(-2-a);  
        System.out.println(2*a);  
        System.out.println(4*a);  
    }  
}
```

Output

```
2147483647  
-2147483648  
-2147483645  
2147483647  
-2  
-4
```

Q12

Suppose that a variable a is declared as `double a = 3.14159`. What do each of the following print?

- a. `System.out.println(a);`
- b. `System.out.println(a+1);`
- c. `System.out.println(8/(int) a);`
- d. `System.out.println(8/a);`
- e. `System.out.println((int) (8/a));`

Ans

```
public class A1Q12 {  
    public static void main(String[] args) {  
        double a = 3.14159;  
        System.out.println(a);  
        System.out.println(a+1);  
        System.out.println(8/(int) a);  
        System.out.println(8/a);  
        System.out.println((int) (8/a));  
    }  
}
```

Output

3.14159
4.14159
2
2.5464812403910124
2

Q13

Assume a string variable *ruler1* contains "1" initially i.e.

String ruler1="1"

Write a java program to print the following output using string concatenation. (You can take extra string variables)

1
1 2 1
1 2 1 3 1 2 1
1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

Ans

```
public class Q13 {  
    public static void main(String[] args) {  
        String ruler1="1";  
        System.out.println(ruler1);  
        ruler1=ruler1+" 2 "+ ruler1;  
        System.out.println(ruler1);  
        ruler1=ruler1+" 3 "+ ruler1;  
        System.out.println(ruler1);  
        ruler1=ruler1+" 4 "+ ruler1;  
        System.out.println(ruler1);  
    }  
}
```

Credits – Saswat Samal, Shivam Shrivastav