

# PLA1001 | Mid-term | B21+B22+B23 | FACE

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\* Required

Untitled Section

A number whose numeral is rotationally symmetric is \_\_\_\_\_ \*

- ☐ A. Phi Number
- ☐ B. Euclid’s numbers
- ☐ C. Palindrome Number
- ☒ D. Strobogrammatic Number

\*

```
What is the output of the below Java program?
class static_out
{
    static int x;
    static int y;
    void add(int a , int b)
    {
        x = a + b;
        y = x + b;
    }
}
class static_use
{
    public static void main(String args[])
    {
        static_out obj1 = new static_out();
        static_out obj2 = new static_out();
        int a = 2;
        obj1.add(a, a + 1);
        obj2.add(5, a);
        System.out.println(obj1.x + "" + obj2.y);
    }
}
```

- ☐ a) 7 7
- ☐ b) 6 6
- ☒ c) 7 9
- ☐ d) 9 7



.What would be the output of the following code snippet if variable a=10? \*

```
if(a<=0)
{
    if(a==0)
    {
        System.out.println("1 ");
    }
    else
    {
        System.out.println("2 ");
    }
}
System.out.println("3 ");
```

- ☐ a)1,3
- ☐ b)1,2
- ☐ c)2,3
- ☒ d)3

What will be the output of the following Java program? \*

```
1.  class Output
2.  {
3.      public static void main(String arg
4.      {
5.          int a = 5;
6.          int b = 10;
7.          first:
8.          {
9.              second:
10.             {
11.                 third:
12.                 {
13.                     if (a == b >> 1)
14.                         break second;
15.                 }
16.                 System.out.println(a);
17.             }
18.             System.out.println(b);
19.         }
20.     }
21. }
```

- ☐ a) 5 10
- ☐ b) 10 5
- ☐ c) 5
- ☒ d) 10

.What is the output of this program ? \*

```
public class jump_statement_Example
{
    public static void main(String args[])
    {
        int p = 4,q = 5;
        for ( ; q < 10; ++q)
        {
            if (q % p == 0)
            {
                continue;
            }
            else if (q == 10)
            {
                break;
            }
            else
            {
                System.out.print(q + " ");
            }
        }
    }
}
```

- ☒ a) 5,6,7,9
- ☐ b) 1,2,3,4,5
- ☐ c) 2,3,4,5
- ☐ d) 6,7,8,9

A break statement inside a Loop like while, for, do...while and Enhanced-for causes the program execution \_\_\_\_ Loop. \*

- ☒ A) Exit
- ☐ B) Continuation with next iteration
- ☐ C) Never exit
- ☐ D) None

String class belongs to \_\_\_\_\_ package \*

- ☐ A java.awt
- ☒ B java.lang
- ☐ C java.applet
- ☐ D java.string



\*

```
Find the output of the program
public class Main{
public static void main(String[] args) {
char x = 'X';
int i = 0;
System.out.print(true ? x : 0);
System.out.print(false ? i : x);
}
}
```

- ☐ a) X98
- ☒ b) Compile time error
- ☐ c) X88
- ☐ d) Runtime error

Using Booth's Algorithm for multiplication, the multiplier -57 will be recoded as \*

- ☒ (A) 0 -1 0 0 1 0 0 -1
- ☐ (B) 1 1 0 0 0 1 1 1
- ☐ (C) 0 -1 0 0 1 0 0 0
- ☐ (D) 0 1 0 0 -1 0 0 1

If you want to search from a 1D array traversing through the positions sequentially, the time complexity would be \_\_\_\_\_ \*

- ☒ a)  $O(n)$
- ☐ b)  $O(\log n)$
- ☐ c)  $O(n^2)$
- ☐ d)  $O(n \log n)$



What will be the output of the following Java program? \*

```
1. class Jump_Statements
2. {
3.     public static void main(String args[])
4.     {
5.         int x = 2;
6.         int y = 0;
7.         for ( ; y < 10; ++y)
8.         {
9.             if (y % x == 0)
10.                continue;
11.             else if (y == 8)
12.                 break;
13.             else
14.                 System.out.print(y + " ");
15.         }
16.     }
17. }
```

- ☐ a) 1 3 5 7
- ☐ b) 2 4 6 8
- ☒ c) 1 3 5 7 9
- ☐ d) 1 2 3 4 5 6 7 8 9

Time complexity of Simple Sieve of Eratosthenesis \*

- ☒ A.  $O(n \cdot \log(\log(n)))$
- ☐ B.  $O(n \cdot \log(n-1))$
- ☐ C. Quadratic
- ☐ D. Linearithmic

Which of the following option leads to the portability and security of Java? \*

- ☒ 1. Bytecode is executed by JVM
- ☐ 2. The applet makes the Java code secure and portable
- ☐ 3. Use of exception handling
- ☐ 4. Dynamic binding between objects



What will be the output of the following Java program? \*

```
1. class comma_operator
2. {
3.     public static void main(String[] args)
4.     {
5.         int sum = 0;
6.         for (int i = 0, j = 0; i < 10; i++)
7.             sum += i;
8.         System.out.println(sum);
9.     }
10. }
```

- ☐ a) 5
- ☒ b) 6
- ☐ c) 14
- ☐ d) compilation error

What is another word for half an octet?A. four-bit aggregationB. NibbleC. Short Bit \*

- ☐ A. A Only
- ☐ B. B Only
- ☐ C. A and C
- ☒ D. A and B

Which of these method of class String is used to obtain length of String object? \*

- ☐ A. get()
- ☐ B. Sizeof()
- ☐ C. lengthof()
- ☒ D. length()

What is the output of the below Java program with arrays? \*

```
public class Polo {
    public static void main(String args[])
    {
        String[] computer = {"RAM", "HDD", "MOUSE"};
        String[] parts = {computer[0], computer[2]};
        System.out.print(parts[1]);
    }
}
```

- ☐ A) RAM
- ☐ B) HDD
- ☒ C) MOUSE
- ☐ D) Compiler error



What is the output of the Java code snippet? `System.out.println(0b0000_1000);` \*

- ☐ A) 0b0000\_1000
- ☐ B) 1000
- ☒ C) 8
- ☐ D) 9

Which of these is not a bitwise operator? \*

- ☐ a) &
- ☐ b) &=
- ☐ c) |=
- ☒ d) <=

What is the output of the following code? \*

```
public class Main{
    public static void main(String args[]){
        StringBuffer s = new StringBuffer("Bob");
        s.deleteCharAt(0);
        System.out.println(s);
    }
}
```

- ☐ A Bo
- ☒ B ob
- ☐ C Bob
- ☐ D B

What is the range of int data type in Java? \*

- ☐ a) -128 to 127
- ☐ b) -32768 to 32767
- ☒ c) -2147483648 to 2147483647
- ☐ d) None of the mentioned

How many variants of the sieve algorithms are there? \*

- ☐ A. 1
- ☐ B. 2
- ☒ C. 3
- ☐ D. 4



Evaluate the following Java expression, if  $x=3$ ,  $y=5$ , and  $z=10$ :  $++z + y - y + z + x++$  \*

- ☐ 24
- ☐ 23
- ☐ 20
- ☒ 25

If an index of an element is  $N$ , what is its actual position in the array? \*

- ☐ A)  $N-1$
- ☐ B)  $N$
- ☒ C)  $N+1$
- ☐ D)  $N+2$

Which of the following is a Divide and Conquer application for fast multiplication? \*

- ☒ Karatsuba Algorithm
- ☐ Booth's algorithm
- ☐ Euclid Algorithm
- ☐ Irvine's multiplication algorithm

What is the main difference between a while and a do...while loop in Java? \*

- ☐ A) while loop executes the statements inside of it at least once even if the condition is false.
- ☒ B) do...while loop executes the statements inside of it at least once even if the condition is false.
- ☐ C) while loop is fast.
- ☐ D) do...while loop is fast

Which of the following is a mutable class in java? \*

- ☐ 1. java.lang.String
- ☐ 2. java.lang.Byte
- ☐ 3. java.lang.Short
- ☒ 4. java.lang.StringBuilder





What will be the output of the following Java program? \*

```
1.  class Output
2.  {
3.      public static void main(String args[])
4.      {
5.          int a = 1;
6.          int b = 2;
7.          int c = 3;
8.          a |= 4;
9.          b >>= 1;
10.         c <<= 1;
11.         a ^= c;
12.         System.out.println(a + " " + b + " ")
13.     }
14. }
```

- ☒ a) 3 1 6
- ☐ b) 2 2 3
- ☐ c) 2 3 4
- ☐ d) 3 3 6

Which of the following algorithms is used to find GCD of two numbers1. Euler's phi Algorithm2. Remainder Theorem3. Euclid's Algorithm \*

- ☐ A. 1 Only
- ☐ B. 1 and 2
- ☒ C. 2 and 3
- ☐ D. 1 and 3

\*

What will be the output of the following Java program?

```
Class Main {
public static void main(String args[])
{
int x = 2;
int y = 0;
for ( ; y < 10; ++y)
{
if (y % x == 0)
continue;
else if (y == 8)
break;
else
System.out.print(y +""");
}
}
}
```

- ☐ a) 1 3 5 7
- ☐ b) 2 4 6 8
- ☒ c) 1 3 5 7 9
- ☐ d) 1 2 3 4 5 6 7 8 9



Which of these are selection statements in Java? \*

- ☒ a) if()
- ☐ b) for()
- ☐ c) continue
- ☐ d) break

What is the output of the Java program given below? \*

```
class Output
{
    public static void main(String args[])
    {
        int a = 1;
        int b = 2;
        int c;
        int d;
        c = ++b;
        d = a++;
        c++;
        b++;
        ++a;
        System.out.println(a + " " + b + " " + c);
    }
}
```

- ☐ a) 3 2 4
- ☐ b) 3 2 3
- ☐ c) 2 3 4
- ☒ d) 3 4 4

Imagine we have two integers a and b. If we keep subtracting repeatedly the larger of two, we end up with \_\_\_\_ \*

- ☐ a. LCM
- ☒ b. HCF
- ☐ c. Zero
- ☐ d. Both A and B

Which of these selection statements test only for equality? \*

- ☐ a) if
- ☒ b) switch
- ☐ c) if and switch
- ☐ d) none of the mentioned



What is the output of the below Java program with arrays? String[] colors = {"RED","YELLOW","WHITE"}; System.out.print(colors[2]); \*

- ☐ A) RED
- ☐ B) YELLOW
- ☐ C) WHITE
- ☒ D) Compiler error

Which of these method of class String is used to extract a single character from a String object? \*

- ☐ A. CHARAT()
- ☐ B. charat()
- ☒ C. charAt()
- ☐ D. ChatAt()

\*

```
public class CompareToExample2{  
public static void main(String args[]){  
String s1="hello";  
String s2="";  
String s3="me";  
System.out.println(s1.compareTo(s2));  
System.out.println(s2.compareTo(s3));  
}}|
```

- ☒ 5 2
- ☐ 0 2
- ☐ 2 2
- ☐ 1 1

The evaluation of a logical expression exit in between before complete evaluation in Java is known as \*

- ☐ A. Preevaluation
- ☐ B. PostEvaluation
- ☒ C. Short Circuiting
- ☐ D. Cache Evaluation



Which operator is used to invert all the digits in a binary representation of a number? \*

- ☒ a) ~
- ☐ b) <<<
- ☐ c) >>>
- ☐ d) ^

What is the output of the below Java program?

```
int a=1;
while(a<4)
{
    System.out.print(a + "; ");
    a++;
}
```

- ☐ A) 1 2 3 4
- ☒ B) 1 2 3
- ☐ C) 6
- ☐ D) Compiler error

Clear selection

Evaluate the following Java expression, if x=3, y=5, and z=10:++z + y - y + z + x++ \*

- ☐ 1. 24
- ☐ 2. 23
- ☐ 3. 20
- ☒ 4. 25

In Java arrays are \*

- ☒ Objects
- ☐ Objects References
- ☐ Primitive data type
- ☐ None of the above



What will be the output of the following Java code?

```
enum Season
{
    A, B, X, Z
};

System.out.println(Season.A.ordinal());
```

- ☒ a) 0
- ☐ b) 1
- ☐ c) 2
- ☐ d) 3

Clear selection

Which of these operators is used to allocate memory to array variable in Java? \*

- ☐ a) malloc
- ☐ b) alloc
- ☒ c) new
- ☐ d) new malloc

\*

Predict the output

```
class Main {
    public static void main(String args[])
    {
        int a = 3;
        int b = 6;
        int c = a | b;
        int d = a & b;
        System.out.println(c + "" + d);
    }
}
```

- ☒ 7 2
- ☐ 7 7
- ☐ 7 5
- ☐ 5 2



What is the time complexity of following code: \*

```
int a = 0, i = N;
while (i > 0)
{
    a += i;
    i /= 2;
}
```

- ☐ O(N)
- ☐ O(Sqrt(N))
- ☐ O(N / 2)
- ☒ O(log N)

Which of the below is invalid identifier with the main method? \*

- ☐ a) public
- ☐ b) static
- ☒ c) private
- ☐ d) final

\*

Predict the output

```
class Main {
    public static void main(String args[])
    {
        int a = 3;
        int b = 6;
        int c = a | b;
        int d = a & b;
        System.out.println(c + " " + d);
    }
}
```

- ☒ a) 7 2
- ☐ b) 7 7
- ☐ c) 7 5
- ☐ d) 5 2

Which of the following is a Divide and Conquer application for fast multiplication? \*

- ☒ A. Karatsuba Algorithm
- ☐ B. Booth's algorithm
- ☐ C. Euclid Algorithm
- ☐ D. Irvine's multiplication algorithm



What will this code print? `int arr[] = new int [5]; System.out.print(arr);` \*

- ☐ a) 0
- ☐ b) value stored in arr[0].
- ☐ c) 00000
- ☒ d) Class name@ hashCode in hexadecimal form

In which memory a String is stored, when we create a string using new operator? \*

- ☐ 1. Stack
- ☐ 2. String memory
- ☒ 3. Heap memory
- ☐ 4. Random storage space

What would be the output of the following code snippet if variable p=20? \*

```
public class Result
{
    public static void main(String args[])
    {
        int p=20;
        if(p<=0)
        {
            if(p==0)
            {
                System.out.println("5 ");
            }
            else
            {
                System.out.println("10 ");
            }
        }
        System.out.println("15 ");
    }
}
```

- ☐ 10
- ☐ 50
- ☒ 15
- ☐ 20

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