Approx time duration: 120 minutes

1 Study the following code and analyse which of the following statements are valid.

1. **byte** b1=12;
2. **int** x=b1;
3. b1=x;
4. **byte** b2=23;
5. **byte** b3=250;
6. **float** f1=3.14;
7. **float** f3=x;
8. **float** f4=b1;
9. **char** ch=49;
10. **int** x1=ch;
11. **boolean** bl1=12>3;
12. **boolean** bl2=x;

2 **int** x=-12;

System.*out*.println(Integer.*toBinaryString*(x));

**int** y=x>>2;

System.*out*.println(Integer.*toBinaryString*(y));

**int** z=x>>>2;

System.*out*.println(Integer.*toBinaryString*(z));

**int** p=x<<2;

System.*out*.println(Integer.*toBinaryString*(p));

System.*out*.println(x+" "+y+" "+z+" "+p);

/\*output :

11111111111111111111111111110100

11111111111111111111111111111101

111111111111111111111111111101

11111111111111111111111111010000

-12 -3 1073741821 -48\*/

3 Understand the following code: guess the output.

**a )**

**int** x=10,y=5;

**boolean** z1=x++ > 12 && y-- < 10;

System.*out*.println(x+" "+y+" "+z1);

**boolean** z2=x++ > 12 & y-- < 10;

System.*out*.println(x+" "+y+" "+z2);

b)

**for**(**int** i=1;i<=5;i++)

System.*out*.println(i);

System.*out*.println(i);

c)

**int** x=12,y=25;

**if**(x>y)

**if**(x>20)

System.*out*.println("one");

**else**

System.*out*.println("two");

d)

**int** x=13;

**if**(x)

System.*out*.println(x);

1. Write a java program that reads a series of names from the command line and prints them one by one.
2. Write a java program to read n numbers from the command line and prints the sum and average on the console, validate that the number of arguments should be minimum 2.
3. Write a java program by defining a method static Boolean isPrime(int n) that checks for a prime no and returns true or false. b using the above method complete the program to generate prime numbers from m to n where m and n are limits entered from command line

7 Write a java program to store 10 numbers , write a method findMax(int array[]) that returns the position of the maximum element.

1. Write a Program that reads total marks and names of n students from keyboard and prints the following:
   1. A Topper’s name and marks
   2. B All students who have secured 1st class.

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Complete the following program, resolve errors if any.

**public** **class** SearchDemo {

**public** **static** **void** linearSearch(**int** a[],**int** n,**int** key)

{

**for**(**int** i=0;i<n;i++)

{

**if**(a[i]==key)

{

System.*out*.println("key element found at position"+i);

System.*exit*(1);

}

}

System.*out*.println("element not found");

}

**public** **static** **void** main(String[] args) **throws** IOException {

//………complete the code

}

}