Java Coding interview questions

Swapping 2 numbers – with extra variable

```
class SwappingNumbers
{
    public static void main(String args[])
    {
        int x = 10;
        int y = 20;
        //swapping numbers with extra variable
        int temp = x;
        x = y;
        y = temp;

        System.out.println(x);
        System.out.println(y);
    }
}
```

Swapping 2 numbers – without extra variable

```
class SwappingNumbers
{
    public static void main(String args[])
    {
        int x = 10;
        int y = 20;
        //swapping numbers without extra variable
        x = x + y;
        y = x - y;
        x = x - y;

        System.out.println(x);
        System.out.println(y);
    }
}
```

Factorial program

```
class Factorial
{
    public static void main(String args[])
    {
        int x = 5; //lets find factorial of 5
        int result = 1; //for storing result

        for(int i=x; i>1; i--)
        {
            result = result * i;
        }

        System.out.println("factorial of " + x + " is " + result);
    }
}
```

Fibonacci series

```
class Fibonacci
{
    public static void main(String args[])
    {
        int fno = 0;
        int sno = 1;
        System.out.println(fno);
        System.out.println(sno);
        int result = fno + sno;

        //keep printing fibonacci series until it reaches 100
        while(result < 100)
        {
            System.out.println(result);
            fno = sno;
            sno = result;
            result = fno + sno;
        }
    }
}
```

Prime number program

```
class PrimeNumber
{
    public static void main(String args[])
    {
        int num = 49; //store the number
        boolean isPrime = true;

        for(int i=2; i<num; i++)
        {
            if(num % i == 0)
            {
                isPrime = false;
                break;
            }
        }

        if(isPrime)
        {
            System.out.println(num + " is prime");
        }
        else
        {
            System.out.println(num + " is not prime");
        }
    }
}
```

Palindrome number

```
class PalindromeNumber
{
    public static void main(String args[])
    {
        int num = 159; //store some number
        int temp = num; //take a backup copy of the number
        int rev = 0; //is used to stored reveresed number

        while(num>0)
        {
            int last = num % 10;
            num = num / 10;
            rev = (rev * 10) + last;
        }

        if(rev == temp)
        {
            System.out.println(temp + " is palindrome number");
        }
        else
        {
            System.out.println(temp + " is not palindrome number");
        }
    }
}
```

Armstrong number

```
class ArmstrongNumber
{
    public static void main(String args[])
    {
        int num = 153; //store some number
        int temp = num; //take back up of the number
        int result = 0; //to store result numbed

        while(num>0)
        {
            int last = num%10;
            result = result + (last*last*last);
            num = num/10;
        }
        if(temp == result)
        {
            System.out.println(temp+" is armstrong number");
        }
        else
        {
            System.out.println(temp+" is not armstrong number");
        }
    }
}
```

Biggest element in an array

```
class BiggestElementInArray
{
    public static void main(String args[])
    {
        int[] arr = {10,9,11,23,8};
        int big = arr[0];

        for(int i=1; i<arr.length; i++)
        {
            if(arr[i] > big)
            {
                big = arr[i];
            }
        }

        System.out.println("biggest element in array is.." + big);
    }
}
```

Searching an element in an array

```
class SearchElementInArray
{
    public static void main(String args[])
    {
        int[] arr = {10,8,9,11,12};
        int element = 11; //element to find its position
        int pos = -1;

        for(int i=0; i<arr.length; i++)
        {
            if(arr[i] == element)
            {
                pos = i; //store position in pos
                break; //go out of loop
            }
        }

        if(pos == -1)
        {
            System.out.println(element+" not found");
        }
        else
        {
            System.out.println(element+" found at position "+pos);
        }
    }
}
```

Sorting an Array – bubble sort

```
class BubbleSort
{
    public static void main(String args[])
    {
        int[] arr = {10,8,-9,11,12};
        int len = arr.length;

        //bubble sort logic
        for(int i=0; i<len-1; i++)
        {
            for(int j=0; j<len-i-1; j++)
            {
                if(arr[j]>arr[j+1])
                {
                    int temp = arr[j];
                    arr[j] = arr[j+1];
                    arr[j+1] = temp;
                }
            }
        }

        //lets print array
        for(int i=0; i<len; i++)
        {
            System.out.println(arr[i]);
        }
    }
}
```

Removing duplicates from array

```
class RemoveDuplicates
{
    public static void main(String args[])
    {
        int[] arr = {10,8,10,8,12};
        int len = arr.length;

        //logic
        for(int i=0; i<len-1; i++)
        {
            for(int j=i+1; j<len-1; j++)
            {
                if(arr[i]==arr[j] && arr[i]!=-1)
                {
                    arr[j] = -1;
                }
            }
        }

        //lets print array
        for(int i=0; i<len; i++)
        {
            if(arr[i] != -1)
                System.out.println(arr[i]);
        }
    }
}
```

Reverse a string

```
class StringReverse
{
    public static void main(String args[])
    {
        String name = "palle";
        for(int i=name.length()-1; i>=0; i--)
        {
            System.out.print(name.charAt(i));
        }
    }
}
```

Palindrome string program

```
class PalindromeString
{
    public static void main(String args[])
    {
        String name = "liril";
        String reverse = "";

        for(int i=name.length()-1; i>=0; i--)
        {
            reverse = reverse + name.charAt(i);
        }

        if(reverse.equals(name))
        {
            System.out.println(name+" is a palindrome string");
        }
        else
        {
            System.out.println(name+" is a not a palindrome string");
        }
    }
}
```

Counting words in a String

```
class Rextester
{
    public static void main(String args[])
    {
        String name = "palle technologies java j2ee training";
        int count = 1;

        for(int i=0; i<name.length(); i++)
        {
            if(name.charAt(i) == ' ')
            {
                count++;
            }
        }

        System.out.println("total words = " + count);
    }
}
```

Reversing words in a String

```
class ReverseWordsInString
{
    public static void main(String args[])
    {
        String name = "palle technologies java j2ee training";
        String[] arr = name.split(" ");

        for(int i=0; i<arr.length; i++)
        {
            String element = arr[i];
            for(int j=element.length()-1; j>=0; j--)
            {
                System.out.print(element.charAt(j));
            }
            System.out.print(" ");
        }
    }
}
```

Count vowels in a String

```
class CountVowels
{
    public static void main(String args[])
    {
        String name = "palle technologies";
        int count = 0;

        for(int i=0; i<name.length(); i++)
        {
            char ch = name.charAt(i);
            if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u')
            {
                count++;
            }
        }

        System.out.println("total vowels = " + count);
    }
}
```

Right angle triangle pattern

```
class RightAngleTriangle
{
    public static void main(String args[])
    {
        for(int i=1; i<=4; i++)
        {
            for(int j=1; j<=i; j++)
            {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

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

Reversed right angle triangle pattern

```
class ReversedRightAngleTriangle
{
    public static void main(String args[])
    {
        for(int i=4; i>=1; i--)
        {
            for(int j=1; j<=i; j++)
            {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

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

Mirrored right angle triangle pattern

```
class MirrorRightAngleTriangle
{
    public static void main(String args[])
    {
        for(int i=1; i<=4; i++)
        {
            for(int j=1; j<=4; j++)
            {
                if(i+j<=4)
                {
                    System.out.print(" ");
                }
                else
                {
                    System.out.print("*");
                }
            }
            System.out.println();
        }
    }
}
```

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

Pyramid star patter

```
class PyramidPattern
{
    public static void main(String args[])
    {
        for(int i=1; i<=4; i++)
        {
            for(int j=1; j<=4+i-1; j++)
            {
                if(i+j<=4)
                {
                    System.out.print(" ");
                }
                else
                {
                    System.out.print("*");
                }
            }
            System.out.println();
        }
    }
}
```

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