**Basic java programs**
**==========**

1. **Reverse the string**

E.x

```
public static void main(String[] args)
{
        String string = "dream big";
        String reversedStr = "";

          for(int i = string.length()-1; i >= 0; i--)
              {
                  reversedStr = reversedStr + string.charAt(i);
               }
           System.out.println("Original string: " + string);
           System.out.println("Reverse of given string: " + reversedStr);
}
```

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2. **Fibonacci Series Program**

In the Fibonacci series, the next number is the sum of previous two numbers for example 0,1, 1, 2, 3, 5, 8, 13, 21, 34, 55 etc. The first two numbers of fibonacci series are 0 and 1.

E.x.

```
public static void main(String[] args)
{
        int n1 = 0, n2 = 1, n3, i, count = 10;
        System.out.print(n1 + " " + n2);// printing 0 and 1

        for (i = 2; i < count; ++i)// loop starts from 2. 0 and 1 are already printed
        {
            n3 = n1 + n2;
            System.out.print(" " + n3);
            n1 = n2;
            n2 = n3;
        }
}
```

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3. **Palindrome Number Program**

Palindrome number in java: A palindrome number is a number that is the same after reverse. For example 545, 151, 34543, 343, 171, 48984 are the palindrome numbers. It can also be a string like LOL, MADAM, radar etc.

**E.x**

```
public class Testing1 {
	public static void main(String[] args) {

		String string = "radar";
		String reversedStr = "";

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

		if (string.equals(reversedStr)) {
			System.out.println("palindrom");
		} else {
			System.out.println("not palindrome");
		}

	}
}
```

4. **Factorial Number Program**

Factorial of n is the product of all positive descending integers. Factorial of n is denoted by n!.
For example:

1. 4! = 4*3*2*1 = 24
2. 5! = 5*4*3*2*1 = 120

E.x

```
class sclass {
	public static void main(String args[]) {
		int i, fact = 1;
		int number = 5;			// It is the number to calculate factorial
		for (i = 1; i <= number; i++) {
			fact = fact * i;
		}
		System.out.println("Factorial of " + number + " is: " + fact);
	}
}
```

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**5. Find occurrences of characters in a string**

**E.x**

```
public static void main(String args[])
{
        String input = "aaaabbccAAdd";
        char search = 'a'; // Character to search is 'a'.
        int count = 0;
        for (int i = 0; i < input.length(); i++)
        {
                if (input.charAt(i) == search)
                count++;
        }
System.out.println("The Character '" + search + "' appears " + count + " times.");
}
```

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**6. Find the count of Capital and Small letters in a string**

E.x

```
public static void main(String[] args)
        {
                String str1 = "AbRaaatt";
                int upperCase = 0;
                int lowerCase = 0;
                char[] ch = str1.toCharArray();
                for (char chh : ch)
                {
                        if (chh >= 'A' && chh <= 'Z')
                        {
                                upperCase++;
                        } else if (chh >= 'a' && chh <= 'z')
                        {
                                lowerCase++;
                        }
                }
                System.out.println("Count of Uppercase letter are " + upperCase+ " and of
Lowercase are " + lowerCase);
        }
```

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**7. Swap numbers without temporary variable**

E.x

```
public static void main(String a[])
   {
      int x = 10;
      int y = 5;
      x = x + y;
      y = x - y;
      x = x - y;
      System.out.println("After swapping:" + " x = " + x + ", y = " + y);
   }
```

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**8. Count number, alphabet and special characters**

E.x

```
public static void main(String args[])
        {
                String str = "#GeeKs01fOr@gEEks07";
                int upper = 0, lower = 0, number = 0, special = 0;

                for (int i = 0; i < str.length(); i++)
                {
                        char ch = str.charAt(i);
                        if (ch >= 'A' && ch <= 'Z')
                                upper++;
                        else if (ch >= 'a' && ch <= 'z')
                                lower++;
                        else if (ch >= '0' && ch <= '9')
                                number++;
                        else
                                special++;
                }

                System.out.println("Lower case letters : " + lower);
                System.out.println("Upper case letters : " + upper);
                System.out.println("Number : " + number);
                System.out.println("Special characters : " + special);
        }
```