

Chapter 7 Recursion in Java by Munawar

Recursion

A Function in java can call itself such calling of function by itself is called recursion.

Example: Factorial of a number

Factorial (x) = x * Factorial (n-1)

Quick Quiz:

Write a program to calculate (recursion must be used) factorial of a number in java?

Source Code

```
import java.util.Scanner;
public class Main {
    // factorial(n)=n*n-1*...1
    // factorial (5) =5*4*3*2*1 =120
    // factorial (n) n*factorial(n-1)
    static int factorial(int n){
        if(n==0||n==1){
            return 1;
        }
        else {
            //first method
            return n*factorial(n-1);
            // second method
            int product=1;
            for(int i=1;i<=n;i++){
                product+=1;
            }
            return product;
        }
    }

    public static void main(String[] args) {
        //Recursion in java
    }
}
```

```
int fac=5;
System.out.println("The factorial of 5 is "+factorial(fac));
System.out.println("The factorial of 4 is "+factorial(4));
}
}
```

Thank You