## Tutorial 05

[Q1]

public class Main {  
 public static void main(String[] args) {  
 *hello*();  
 }  
 private static void hello(){  
 System.*out*.println("Hello world!");  
 }  
}

[Q2]

import java.util.Scanner;  
  
public class Q2 {  
 public static void main(String[] args) {  
 DisplayMenu displayMenu = new DisplayMenu();  
 displayMenu.display();  
 }  
  
 public static class DisplayMenu {  
 boolean exit = true;  
 Scanner input = new Scanner(System.*in*);  
  
 public void display() {  
 while (exit) {  
 System.*out*.println("\*\*\*\*\*\*\*\*\*\*");  
 System.*out*.println(" MENU ");  
 System.*out*.println("\*\*\*\*\*\*\*\*\*\*");  
 System.*out*.println("1.- Addition");  
 System.*out*.println("2.- Subtraction");  
 System.*out*.println("0.- Quit Please select an option: ");  
  
 System.*out*.println("Select your option: ");  
 int userInput = input.nextInt();  
  
 switch (userInput) {  
 case 1:  
 *Addition*();  
 break;  
 case 2:  
 *Subtraction*();  
 break;  
 case 0:  
 exit = false;  
 break;  
 default:  
 System.*out*.println("Please enter a valid number!");  
 }  
 }  
 }  
 }  
  
 private static void Addition() {  
 double nb1=0, nb2=0;  
 *userInput*();  
 double sum = nb1 + nb2;  
 System.*out*.println(nb1 + " + " + nb2 + " = " + sum);  
 }  
  
 private static void Subtraction() {  
 double nb1 = 0, nb2 =0;  
 *userInput*();  
 double sub = nb1 - nb2;  
 System.*out*.println(nb1 + " - " + nb2 + " = " + sub);  
 }  
  
 private static void userInput() {  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.println("Enter 1st number: ");  
 double nb1 = input.nextDouble();  
 System.*out*.println("Enter 2nd number: ");  
 double nb2 = input.nextDouble();  
 }  
}

[Q3]

public class Q3 {  
 public static void main(String[] args) {  
 Number printnumber=new Number();  
 Number.*printNb*();  
 }  
 public static class Number{  
 public static void printNb(){  
 int i=1;  
 while (i<101){  
 System.*out*.println(i);  
 i++;  
 }  
 }  
 }  
}

[Q4]

import java.util.Scanner;  
  
public class Q4 {  
 public static void main(String[] args) {  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.println("Enter a base nb: ");  
 int baseNb = input.nextInt();  
  
 System.*out*.println("Enter a exponent nb: ");  
 int expo = input.nextInt();  
  
 int result = *exponent*(baseNb, expo);  
 System.*out*.println(result);  
 }  
  
 public static int exponent(int baseNb, int exponent) {  
 if (exponent == 0) {  
 return 1;  
 } else if (exponent == 1) {  
 return baseNb;  
 } else {  
 return baseNb \* *exponent*(baseNb, exponent - 1);  
 }  
  
 }  
}

[Q6]

public class Q6 {  
 public static void main(String[] args) {  
 int i = -3;  
 int aValue = 0 -3;  
 *multiply*(aValue,2);  
 }  
 private static void multiply(int sum1,int sum2){  
 int i = sum1 - sum2 \* sum2;  
 System.*out*.println(sum2+" "+sum1);  
 }  
}

[Q7]

import java.util.Scanner;  
  
public class Q7 {  
 public static void main(String[] args) {  
  
 int number = 5; // Change this to any number you want  
  
 int result = *multiplyByTwo*(number);  
  
 System.*out*.println("Twice the number " + number + " is: " + result);  
}  
  
// Method to return two times the input number  
public static int multiplyByTwo(int number) {  
 return number \* 2;  
 }  
}

[Q8]

public class Q8 {  
 public static void main(String[] args) {  
  
 int number = 5; // Change this to any number you want  
  
 long factorial = *findFactorial*(number);  
  
 System.*out*.println("Factorial of " + number + " is: " + factorial);  
 }  
  
 // Method to find factorial using recursion  
 public static long findFactorial(int n) {  
 if (n == 0 || n == 1) {  
 return 1;  
 } else {  
 return n \* *findFactorial*(n - 1);  
 }  
 }  
}