TP1

Object-oriented programming

For 2nd Year CC computer Engineering

2023 /2024

Semster 3

1. **Operators and expressions**

   1.1. Write:

```
System.out.println("hello world !") ;
System.out.println(358);
System.out.println(3 + 3);
```

   1.2. Comments :
```
// This is a comment

/* This is a multi line comments
Those lines going to be ignored by java  */
```

   1.3. Variables
```
String  String name = "John";
int  int number = 15;
float myFloatNum = 5.99f;
char letter= 'D';
boolean bool = true;
```
   exo : Display the sum of 5 + 10, using two variables: x and y.

   Print variables :
```
String name = "John Dhon";
System.out.println("Hello " + name);
// String fullName = firstName +lastName;
```
   Declare multiple variables :
```
int x = 5, y = 6, z = 50;
```

   1.4. Read :
```
    import java.util.Scanner;
     Scanner scanner = new Scanner(System.in);

    System.out.print("Enter an integer: ");
    int number = scanner.nextInt(); //
    System.out.println("You entered: " + number);
```

   Read inputs :

   To read doubles :
```
double nombreDecimal = scanner.nextDouble();
```

   To read char :
```
char caractere = scanner.next().charAt(0);
```
   To read string :
```
String chaine = scanner.nextLine();
```
   To read a word :

```java
 String mot = scanner.next();
```
To read float :
```java
Scanner.nextFload() ;
```

1.5. Operators :

```
+        Addition        Adds together two values        x + y
-        Subtraction     Subtracts one value from another      x - y
*        Multiplication Multiplies two values  x * y
/        Division        Divides one value by another   x / y
%        Modulus Returns the division remainder x % y
   int x = 5;
   int y = 2;
   System.out.println(x % y);
++       Increment        Increases the value of a variable by 1 ++x
int x = 5;
--x;
--       Decrement        Decreases the value of a variable by 1 --x
```

```
==       !=       >       <       >=      <=
   int x = 5;
   int y = 3;
   System.out.println(x > y);
```

1.6. Arrays
```java
   String[] cars;
   String[] cars = {"Volvo", "BMW", "Ford", "Mazda"} ;
   int[] myNum = {10, 20, 30, 40};
   System.out.println(cars[0]);
```

1.7. Control instructions

```java
if (condition) {

 // block of code to be executed if the condition is true

} else {

 // block of code to be executed if the condition is false

}
```

```java
switch(expression) {

 case x:

  // code block

  break;

 case y:

  // code block
```

```
    break;
  default:
    // code block
}
```

Switch,while loop, for loop

Exercise:

Exo1 : Print "Hello World" if x is equal to y.

Exo2: Print i as long as i is less than 6. Using while then using loop

Exo3 : Calculate a factorial of an input using (Scanner)

Exo4 :The following program is a java code using for loop, do the same with while and do while loop :

```java
import java.util.Scanner;
public class ExoII4a {
  public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    int i, n, som;
    som = 0;
    for (i = 0; i < 4; i++) {
      System.out.println("Donnez un entier: ");
      n = scanner.nextInt();
      som += n;
    }
    System.out.println("Somme : " + som);
  }
}
```