INSTITUTE OF SOFTWARE ENGINEERING

GRADUATE DIPLOMA IN SOFTWARE ENGINEERING

ASSIGNMENT NAME

Programming fundamentals

ASSIGNMENT NO

02

NUMBER OF QUESTIONS: 40

NUMBER OF COMPLETED QUESTIONS: 40

NUMBER OF REMAINING QUESTIONS: 00

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BATCH NO: 61

1. **Print -** This method prints the text on the console and the cursor remains at the end of the text at the console.
   Println - This method prints the text on the console and the cursor remains at the start of the next line at the console.

   Example

```
class Example{
    public static void main(String args[]){
        System.out.print("A");
        System.out.print("B");
        System.out.println("C");
        System.out.println("A");
        System.out.println("B");
        System.out.println("c");
    }
}
```

   output

```
ABC
A
B
c
```

2.

```
class Example{
    public static void main(String args[]){
        System.out.println("M.G.Isuru Prabhath");
        System.out.println("No 87/8 Udawela,");
        System.out.println("Newtown,");
        System.out.println("polonnaruwa.");
    }
}
```

3. Java literals – It is a medium of expressing particular values in the program

   Java Literals Types

   1.Integer Literals

```
class Example{
    public static void main(String args[]){
        System.out.println(100); // Print 100 Decimal
        System.out.println(0144); // Print 100 octal
        System.out.println(0b1100100); // Print 100 Binary
        System.out.println(0x64); // Print 100 Hexadecimal
    }
}
```

2.Floating Point Literals

```
class Example{
    public static void main(String args[]){
        System.out.println(0.237);
        System.out.println(1.272);
        System.out.println(.072);
        System.out.println(1273.4e2);
    }
}
```

3.Boolean Literals

```
class Example{
    public static void main(String args[]){
        boolean b=10>7;
        System.out.println(b);//Print true

    }
}
```

4.Character Literals

```
class Example{
    public static void main(String args[]){
        char ch ='I';
        System.out.println(ch);//Print I

    }
}
```

4.

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

        System.out.println("*");
        System.out.println("* *");
        System.out.println("* * *");
        System.out.println("* * * *");
        System.out.println("* * * * *");
    }
}
```

5.

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

        System.out.println("*");
        System.out.println("**");
        System.out.println("***");
        System.out.println("****");
        System.out.println("*****");
        System.out.println("******");
    }
}
```

6.

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

        System.out.println("    *   ");
        System.out.println("  *   *  ");
        System.out.println("*   *   *");
        System.out.println("  *   *  ");
        System.out.println("    *   ");
    }
}
```

7.

```
class Example{
    public static void main(String args[]){
        int i,age;
        i=100;
        age=20;
        System.out.println("The age is "+age);
    }
}
```

8.

```
import java.util.Scanner;
class Example{
    public static void main(String args[]){
        Scanner input=new Scanner(System.in);
        int a,b,c;
        System.out.print("Enter number 1 :");
        a=input.nextInt();
        System.out.print("Enter number 2 :");
        b=input.nextInt();
        c=a+b;
        System.out.println(a+"+"+b+"="+c);
    }
}
```

9.

```
class Example{
    public static void main(String[] args){
        int x,y;
        x=10;
        y=20;
        System.out.println(x+" "+y);

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

10.

```
import java.util.Scanner;
class Example{
    public static void main(String[] args){
        Scanner input=new Scanner(System.in);
        int x,y;
        System.out.print("Input Value one :");
        x=input.nextInt();
        System.out.print("Input Value two :");
        y=input.nextInt();

        System.out.println("Values are "+x+" and "+y);
    }
}
```

11.

```
class Example{
    public static void main(String[] args){
                int  Computing,Maths,Science,English;
                Computing = 90;
                Maths = 85;
                Science = 70;
                English = 55;

                int Total;
                Total= Computing+Maths+Science+English;
                System.out.println("The Total is : "+Total);

                System.out.print("The Total is : ");
                System.out.println(Computing+Maths+Science+English);
                System.out.println(Computing+" "+Maths+" "+Science+" "+English);

                double average;
                average=Total/4;
                System.out.println("The Average is : "+average);
    }
}
```

12.

```
import java.util.Scanner;
class Example{
    public static void main(String[] args){
        Scanner input=new Scanner(System.in);
        double x,y;
        System.out.print("Input Inch: ");
        x=input.nextDouble();
        y=x*25.4;
        System.out.println(x+" inch"+" = "+y+" mm");
    }
}
```

13.

```
import java.util.Scanner;
class Example{
    public static void main(String[] args){
                Scanner input=new Scanner(System.in);
                double x,y;
                System.out.print("Input ounce : ");
                x=input.nextDouble();
                y=x*28.3495;
                System.out.println(x+"oz"+" = "+y+"g");
    }
}
```

14.

```
import java.util.Scanner;
class Example{
    public static void main(String args[]){
                Scanner input=new Scanner(System.in);
                int x;
                System.out.print("Input age : ");
                x=input.nextInt();
                x=x+3;
                System.out.println("New age is : "+x);
    }
}
```

15.

```
class Example{
    public static void main(String[] args){
        int a=34,b=45,c=62,d=34,e=23,f=89,g=56,h=45,i=67,j=56,x;
        x=a+b+c+d+e+f+g+h+i+j;
        double y;
        y=x/10.0;
        System.out.println("Total is : "+x);
        System.out.println("Average is : "+y);
    }
}
```

16. D. X=200

Since X is printed, X must be given a value, Since the value of X is printed, X must be given a value

17. C. int x=10, y=20;
Since the value of x and y is printed, we need to create variables for x and y and assign values to them.

18.

```
A
BCD

EF
G
H
```

19. Compile error

```
javac "Example.java" (in directory: D:\PROGRAMMING\JAVA)
Example.java:2: error: <identifier> expected
pubic static void main(String args[]){
     ^
1 error
Compilation failed.
```

After

```
60
10+20+30
10+2030
102030
102030
3030
102030
```

20. Line 1 valid
Line 2 valid
Line 3 invalid
Line 4 valid
Line 5 invalid
Line 6 valid
Line 7 valid
Line 8 invalid
Line 9 invalid
Line 10 valid

21. A. int sum,x;
B. x=1;
C. sum=0;
D. sum=x+sum;
E. System.out.println(”The sum is : “+sum);

22.

```
class Example{
public static void main(String args[]){
    System.out.println("Java is a typed language");
    System.out.println("AB"+"\""+"CB");
    System.out.println("AB\\CD");
    System.out.println("C:\\Windows\\program");
    System.out.println("AB\\"+'"'+"CD");
    System.out.println("AB\\\\"+'"'+'"'+"CD");
    System.out.println("AB\\"+'n'+"CD");
    System.out.println("AB\\"+'t'+"CD");
    System.out.println("AB\\"+'b'+"CD");

   }
}
```

23. B. x=100
Since the value of x is printed, x must be given a value

24.

```
class Example{
    public static void main(String[] args){
        System.out.println("ABC\nXYZ\nPQR");


}
}
```

25. Compile error

```
javac "Example.java" (in directory: D:\PROGRAMMING\JAVA)
Example.java:7: error: variable y is already defined in method main(String[])
int y=200;
    ^
1 error
Compilation failed.
```

Variable y is already used

After

```
10
20
30
200
```

```
class Example{
public static void main(String args[]){
        int x=10,y=20,z=30;
        System.out.println(x);
        System.out.println(y);
        System.out.println(z);
        y=200;
        System.out.println(y);
 }
}
```

26.

```
class Example{

     public static void main(String args[]){
        System.out.println("|"+'"'+"/"+'"'+"\\"+'"'+"/"+'"'+"\\"+'"'+"|");

     }
}
```

27.

```
class Example{

    public static void main(String args[]){
       System.out.println('"'+"+"+'"'+'\\'+'"'+"+"+"/"+'"'+"+"+'"'+"+"+'"'+'\\'+"n"+'"'+"+"+'"'+'\\'+"n"+'"');

    }
}
```

28.

```
class Example{

     public static void main(String []args){
         System.out.println("Name    : Niroth \nTotal   : 673 \nAverage : 67.3 \nGrade   : B");

     }
}
```

29. A. char a =’\u0061’;
C. cha \u0061 = ’a’;
D. ch\u0061r a = ‘a’;

30. D. Compile error at line 6

31. a b c g

32. e. Compile-time error

33. e. Compile time error

34. d. When run, the program will print 34

35. f. None of the above

36. A. 6 - All Integers
B. 123 - All Character
C. 150 – ASCII value of digits 1-49/ 2-50/ 3-51
D. 1 2 3 -Two are in the middle of the string and the other is converted to a string
E. 198 – ASCII value of character A-65/ B-65/ C-67
F. ABC - All Character
G. 365 - A character ASCII value is 65 (65+100+200=365)
H. A B C -Two are in the middle of the string and the other is converted to a string

37. char a='a'; - variable a stores a lowercase a character

System.out.println(a=='\u0061'); - in UTF lowercase a character is represented as \u0061

System.out.println(\u0061=='\u0061'); - \u0061 value is unquoted so it's decoded into Lowercase a during compilation making it a=='\u0061',

System.out.println(\u0061==97); - same as above because 97dec = 61hex except here we are not using UTF notation to represent character, instead we use numerical value of char

\u0061='\u0041'; - a variable assigned value of \u0041 which is uppercase A

System.out.println('A'=='\u0041'); in UTF lowercase A character is represented as '\u0041'

System.out.println(65=='\u0041'); - - 65dec = 41hex, here we are comparing two constants, not the a variable

System.out.println(65==a); - - 65dec = a,

System.out.println('\u0041'==a); - - a = 41hex

38.

a. System.out.println(0B1010); 10
c. System.out.println(0B01010); 10
d. System.out.println(01010); 520
e. System.out.println(0x1010); 4112
f. System.out.println(01012); 522

39.

```
import java.util.*;
class Example{
  public static void main(String args[]){
      Scanner input=new Scanner(System.in);
      System.out.print("Input your age : ");
      int age=input.nextInt();
      System.out.println("Your current age is : "+age);
      age=age+10;
      System.out.println("Your age after 10 years is : "+age);
}
}
```

40.

```
import java.util.*;
class Example{
    public static void main(String args[]){
      Scanner input=new Scanner(System.in);
      System.out.print("Input number 1 : ");
      int num1=input.nextInt();
      System.out.print("Input number 2 : ");
      int num2=input.nextInt();
      System.out.println(num1+" "+num2);
      num2=num1+num2;
      num1=num2-num1;
      num2=num2-num1;
      System.out.println(num1+" "+num2);
}
}
```