



Institute of Software Engineering

Graduate Diploma in Software Engineering

Programming fundamentals – Assignment 02

1. What is the difference between print() and println()? Explain your answer with suitable examples.
2. Write a java program to print both name and address in several lines.
3. Briefly explain the types of java literals. explain your answer with suitable examples.
4. Write a java program to obtain the following result.


```

*
* *
* * *
* * * *
* * * * *
```
5. Write a java program to obtain the following result.


```

*
**
***
****
*****
```
6. Write a java program to obtain the following result.


```

      *
    *   *
  *   *   *
    *   *
      *
```
7. Write a java program to accomplish the following tasks in one.
 - a. Declare an integer variable named as "i".
 - b. Initialize the variable as 100.
 - c. Declare another variable "age" and initialize it dynamically, as 20.
 - d. Print the value of age ("The age is").
8. Write a java program to print the total of two integer numbers input by the keyboard.
9. Write a java program create 2 variables as integer, named x , y and assign values in the same statement
 - a. Print the values as x , y format (ex: if x is 10 and y is 20 output should be 10 20)
 - b. Print the values in y, x format.
10. Write a java program using the help of the "Scanner" ,
 - a. Input two values and store them in two variables.
 - b. Print the values as they assign to the variable and finally print them as "Values are ..."
11. Write one java program to accomplish the given task.
 - a. Declare 4 variables using only ONE statement. (variable names : Computing ,Maths, Science, English)
 - b. Initialize the 4 variables. (Use a value from 1 to 100)
 - c. Declare another Integer variable as total, and sum up the 4 variables and add to the total.
 - d. Print the total ("The total is ...")
 - e. Write a print statement, which prints the total by not using the total variable or any other variable except the given 4 variables.
 - f. Print the four variables keeping space between them.(20 10 30 40)
 - g. Declare variable "average" as double and initialize it as 0.0.
 - h. Find the average of the 4 variables and store them in the variable "average".
 - i. Print the average as ("The Average is").
12. Write a java program to convert inches to millimetres. The conversion formula is "1mm=inch x 25.4".
13. Write a java program to convert ounces to grams. The conversion formula is "gram =ounce x 28.3495".

14. Write a java program to accomplish the following task.

- Input your age.
- Store it in an integer variable named "age"
- Find your age after 3years (No additional variables can be used).
- Print the new age as "New age : "

15. Write a java program to input marks for 10 subjects find the total and average.
The result must be as follows.

```
Marks [34, 45, 62, 34, 23, 89, 56, 45, 67, 56]
Total   : 511
Average : 51.1
```

16. Which of the followings can be legally inserted at line 12? Explain your answer.

```
class Example{
    public static void main(String args[]){
        int x;
        //Insert code here //Line 12
        System.out.println(x);
    }
}
```

- A. int y; B. int x;
C. y=100; D. x=200;
E. Insert nothing

17. Which of the followings can be legally inserted at line 12? Explain your answer.

```
class Example{
    public static void main(String args[]){
        //Insert code //Line 12
        System.out.println(x);
        System.out.println(y);
    }
}
```

- A. int x,y; B. int x=10,y;
C. int x=10,y=20; D. int x=y=10;
E. int x,y=20; F. int x=10,y=20,z=30

18. What is the result of attempting to compile and run the program?

```
class Example{
    public static void main(String args[]){
        System.out.print("A\nB");
        System.out.println("CD");
        System.out.print("\nEF\n");
        System.out.print("G\nH");
    }
}
```

19. What will be the output when you compile run the following program?

```
class Example{
    public static void main(String args[]){
        System.out.println(10+20+30);
        System.out.println("10+20+30");
        System.out.println("10+20"+30);
        System.out.println("10"+"20"+"30");
        System.out.println("10"+20+30);
        System.out.println(10+20+"30");
        System.out.println(10+"20"+30);
    }
}
```

20. Which of the following lines are valid statements?

Explain your answers.

```
class Example{
    public static void main(String args[]){
        System.out.println(0B11100100); //Line 1
        System.out.println(0b11100100); //Line 2
        System.out.println(0B11100200); //Line 3
        System.out.println(0144);         //Line 4
        System.out.println(0148);         //Line 5
        System.out.println(0x64);         //Line 6
        System.out.println(0xabc);        //Line 7
        System.out.println(0xabcg);       //Line 8
        System.out.println(0X);          //Line 9
        System.out.println(0Xffffff);     //Line 10
    }
}
```

21. Write a Java statement to accomplish each of the following tasks:

- Declare variables sum and x to be of type int.
- Assign 1 to variable x.
- Assign 0 to variable sum.
- Add variable x to variable sum, and assign the result to variable sum.
- Print "The sum is: ", followed by the value of variable sum.

22. Write java statements to get following output
(Only one sout statement can be used)

- Java is a typed language
- AB"CB
- AB\CD
- C:\Windows\Program
- AB\"CD
- AB\\\"CD
- AB\nCD
- AB\tCD
- AB\bCD

23. Which of the followings can be legally inserted at line 12? Explain your answer.

```
class Example{
    public static void main(String args[]){
        int x;
        //Line 12
        System.out.println(x);
    }
}
```

- A. x+1;
- B. x=100;
- C. int y=100
- D. int x=200;
- E. Insert nothing.

24. Write a java program to get the following output using a single "System.out.println()"

```
ABC
XYZ
PQR
```

25. What is the result of attempting to compile and run the program?

```
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);
        int y=200;
        System.out.println(y);
    }
}
```

26. Write a java program to get the following output.
|"/"/"/"/|

27. Write a java program to get the following output.
"+""\"/""+""\n""\n"

28. Write a java program to get the following output using a single "System.out.println()"

```
Name : Niroth
Total : 673
Average: 67.3
Grade : B
```

29. Which of the following lines are valid declarations? Select the three correct answers.

- a. char a = '\u0061';
- b. char 'a' = 'a';
- c. char \u0061 = 'a';
- d. ch\u0061r a = 'a';
- e. ch'a'r a = 'a';

30. What is the result of attempting to compile and run the program?

```
class Example{
    public static void main( String args[] ){
        int x,y,z;           //line 1
        x=y=z=10;           //line 2
        int a=12,b,c=4;      //line 3
        int p=10;           //line 4
        int q=p;             //line 5
        int i=j=k=10;        //line 6
    }
}
```

- a. Compile error at line 2
- b. Compile error at line 3
- c. Compile error at line 5
- d. Compile error at line 6
- e. None of the above

31. Which are valid declarations?

(Choose all that apply.)

- a. int \$x;
- b. int 123;
- c. int _123;
- d. int #dim;
- e. int %percent;
- f. int *divide;
- g. int sales_Summer_2005_gross_sales; _

32. What is the result of attempting to compile and run the program?

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

- a. prints : nothing
- b. prints : undefined value
- c. prints „null.
- d. Runtime error
- e. Compile time error
- f. None of the above

33. What is the result of attempting to compile and run the program?

```
class Example{
    public static void main(String args[]){
        int x;
        System.out.println(x);
    }
}
```

- a. prints : nothing
- b. prints : x
- c. prints : 100
- d. Runtime error
- e. Compile time error

34. What will be the result of attempting to compile and run the following program?

```
class Example {  
    public static void main(String[] args) {  
        System.out.println(0x10 + 10 + 010);  
    }  
}
```

Select the one correct answer.

- a. The program will not compile. The compiler will complain about the expression "0x10 + 10 + 010."
- b. When run, the program will print 28.
- c. When run, the program will print 30.
- d. When run, the program will print 34.
- e. When run, the program will print 36.
- f. When run, the program will print 101010.

35. Compile time error is generated at which line?

```
class Example{  
    public static void main(String args[]){  
        char a = '\c'; // Line 1  
        char b = '\r'; // Line 2  
        char c = '\"'; // Line 3  
        char d = '\b'; // Line 4  
        char e = '\"'; // Line 5  
    }  
}
```

- a. Line 1
- b. Line 2
- c. Line 3
- d. Line 4
- e. Line 5
- f. None of the above

36. What is the output for following code fragment and explain your answer?

- A. System.out.println(1+2+3);
- B. System.out.println("1"+"2"+"3");
- C. System.out.println('1'+2+'3');
- D. System.out.println('1'+" "+2+" "+'3');
- E. System.out.println('A'+B+'C');
- F. System.out.println("A"+"B"+"C");
- G. System.out.println('A'+100+200);
- H. System.out.println('A'+" "+B+" "+'C');

37. What will be the outputs when you compile and run the following program and explain your answer line by line?

```
class Example{  
    public static void main(String asrg[]){  
        char a='a';  
        System.out.println(a=='\u0061');  
        System.out.println(\u0061=='\u0061');  
        System.out.println(\u0061==97);  
        \u0061='\u0041';  
        System.out.println('A=='\u0041');  
        System.out.println(65=='\u0041');  
        System.out.println(65==a);  
        System.out.println('\u0041'==a);  
    }  
}
```

38. Which are valid declarations and explain why ?

- a. System.out.println(0B1010);
- b. System.out.println(B1010);
- c. System.out.println(0B01010);
- d. System.out.println(01010);
- e. System.out.println(0x1010);
- f. System.out.println(01012);
- g. System.out.println(0B1012);

39. Complete the following program?

```
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);  
        //-----Do not modify before this line-----  
  
        //your are allowed to insert any code here to  
        //increment the age by 10  
  
        //-----Do not modify after this line---  
-  
        System.out.println("Your age after 10 years is : "  
                            +age);  
    }  
}
```

40. Complete the following program?

```
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);  
  
        //-----Do not modify before this line-----  
  
        //Insert java code(s) here to swap the two  
        //variables "num1" and "num2"  
        //as an example when you input 10 for  
        //num1 and 20 for num2, then  
        //the first output should be "10 20" and the  
        //second output "20 10"  
  
        //-----Do not modify after this line-----  
  
        System.out.println(num1+" "+num2);  
    }  
}
```