**Question 01**

class Example{

public static void main(String args[]){

System.out.println("Darshana Pubudu Keerthirathna");

}

};

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\01>java Example

Darshana Pubudu Keerthirathna

**Question 02**

class Example{

public static void main(String args[]){

System.out.println("Darshana Pubudu Keerthirathna");

System.out.println("15,");

System.out.println("Tilton Housing Scheme,");

System.out.println("Pallegama");

System.out.println("Nawalapitiya");

System.out.println("keerthi.mac@gmail.com");

System.out.println("0716521436");

}

}

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\02>java Example

Darshana Pubudu Keerthirathna

15,

Tilton Housing Scheme,

Pallegama

Nawalapitiya

keerthi.mac@gmail.com

0716521436

**Question 03**

class Example{

public static void main(String args[]){

System.out.println("\*");

System.out.println("\* \*");

System.out.println("\* \* \*");

System.out.println("\* \* \* \*");

}

}

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\03>java Example

\*

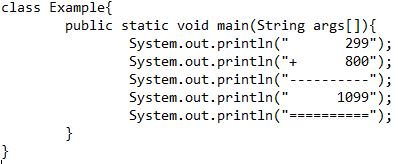
\* \*

\* \* \*

\* \* \* \*

**Question 04**

class Example{

 public static void main(String args[]){

System.out.println(" 299");

System.out.println("+ 800");

System.out.println("----------");

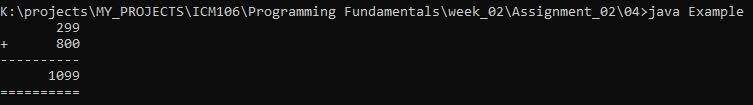
System.out.println(" 1099");

System.out.println("==========");

}

}

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\04>java Example

 299

+ 800

----------

1099

==========

**Question 05**

class Example{

public static void main(String args[]){

System.out.print("\* \* \* \* \* \*");

System.out.println(" ==================================");

System.out.print(" \* \* \* \* \* ");

System.out.println(" ==================================");

System.out.print("\* \* \* \* \* \*");

System.out.println(" ==================================");

System.out.print(" \* \* \* \* \* ");

System.out.println(" ==================================");

System.out.print("\* \* \* \* \* \*");

System.out.println(" ==================================");

System.out.print(" \* \* \* \* \* ");

System.out.println(" ==================================");

System.out.print("\* \* \* \* \* \*");

System.out.println(" ==================================");

System.out.print(" \* \* \* \* \* ");

System.out.println(" ==================================");

System.out.print("\* \* \* \* \* \*");

System.out.println(" ==================================");

System.out.println("==============================================");

System.out.println("==============================================");

System.out.println("==============================================");

System.out.println("==============================================");

System.out.println("==============================================");

System.out.println("==============================================");

}

}

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\05>java Example

\* \* \* \* \* \* ==================================

\* \* \* \* \* ==================================

\* \* \* \* \* \* ==================================

\* \* \* \* \* ==================================

\* \* \* \* \* \* ==================================

\* \* \* \* \* ==================================

\* \* \* \* \* \* ==================================

\* \* \* \* \* ==================================

\* \* \* \* \* \* ==================================

==============================================

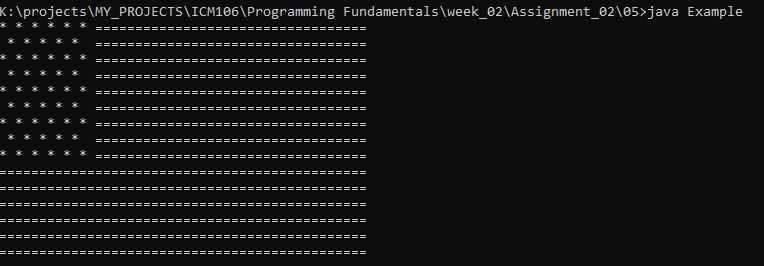
==============================================

==============================================

==============================================

==============================================

==============================================



**Question 06**

**Program A**

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\06>java Example

Institute of Computer Engineering Technology

223 A,

Galle Road,

Panadura.

**Program B**

K:\projects\MY\_PROJECTS\ICM106\Programming Fundamentals\week\_02\Assignment\_02\06>java Example1

Institute of Computer Engineering Technology

223 A,Galle Road,Panadura.

**Question 07**

Generally we use println() & print() both to print something in console. But key difference is if we use println() after this function executes, curser goes to new line. If we use print(), it dose not start with new line but curser start next to previously printed line.

println() – curser start with new line

print() – curser next to previous printed line.

**Like Question 06 example, in program A used .println() & next print started with new line.**

System.out.println("Institute of Computer Engineering Technology");

System.out.println("223 A,");

System.out.println("Galle Road,");

System.out.println("Panadura.");

*Institute of Computer Engineering Technology*

*223 A,*

*Galle Road,*

*Panadura.*

**Like Question 06 example, in program B used .print() & next print started next to previously printed line .**

System.out.println("Institute of Computer Engineering Technology");

System.out.print("223 A,");

System.out.print("Galle Road,");

System.out.print("Panadura.");

Institute of Computer Engineering Technology

*223 A,*

*Galle Road,*

*Panadura.*

**Question 08**

("a") is a string literal

('a') is a character literal.

**Question 09**

Line 1: The number 7 is an integer literal.

Line 2: The number 7 is a floating-point literal.

Line 3: The string "7" is a string literal.

Line 4: The character '7' is a character literal.

**Question 10**

**Integer literals** are whole numbers, like 10, -25.

**Floating-point literals** are decimal numbers with fractional parts, like 3.14, 0.000001.

**Character literals** are single characters, like 'a', 'B', '$'.

**String literals** are sequences of characters, like "Hello", "World", or "".

**Boolean literals** are logical values, either true or false.

**Question 11**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\11>java Example

1100100

100

294976

17826048

**Question 12**

valid statements as following with Explanation.

System.out.println(0B11100100); //Line 1

**Output: 228**

0B prefix indicates that the number is a binary literal. In this case, the binary number 11100100 represents the decimal number 228.

System.out.println(0b11100100); //Line 2

**Output: 228**

The 0b prefix is an alternative way to represent a binary literal & out put is same as before.

System.out.println(0144); //Line 4

**Output: 100**

This line prints the octal number 0144 to the console. we can store octal numbers by just adding 0 while initializing. the octal number 144 represents the decimal number 100.

System.out.println(0x64); //Line 6

**Output: 100**

0x in the beginning indicates number is hexadecimal. Hexadecimal 64 is 100 represents decimal.

System.out.println(0xabc); //Line 7

**Output: 2748**

Like previous Line 6, Hexadecimal abc is 2748 represents decimal.

System.out.println(0Xfffffff); //Line 10

**Output: 268435455**

Hexadecimal fffffff is 268435455 represents decimal.

**Question 13**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\13>java Example

A

BCD

EF

G

H

**Question 14**

class Example{

public static void main(String args[]){

System.out.println("i.\tiCM - iCET CERTIFIED MASTER\n\n");

System.out.println("ii.\tiCM - iCET\n");

System.out.println(" \tiCM - iCET\n\tCERTIFIED\n\tMASTER\n\n");

System.out.println("iii.\tiCM\n\n\tiCET CERTIFIED MASTER");

}

}

**Question 15**

System.out.println("Hello\nJAVA");

**Hello**

**JAVA**

\n – Used for the new line

System.out.println("Hello\tJAVA");

**Hello JAVA**

\t – Used for tab space between hello World

System.out.println("Hello\bJAVA");

**HellJAVA**

\b – Used for backspace and “o” removed because of that

System.out.println("\\Hello JAVA\\");

**\Hello JAVA\**

\\ - Escaping one ‘\’ in both sides

System.out.println("\"Hello\nJAVA\"");

**"Hello**

**JAVA"**

\” – used for escape “ character in both sides. If not program will throw error.

\n – Used for new line

System.out.println("\'Hello\nJAVA\'");

**'Hello**

**JAVA'**

\’ – used for escape ‘ character in both sides. If not program will throw error.

\n – Used for new line

**Question 16**

class Example {

public static void main(String args[]){

System.out.println("a.Java is a typed language\nb.AB\"CD\nc.AB\\CD\nd.C:\\Windows\\Program\ne.AB\\\"CD\nf.AB\\\\\"\"CD\ng.AB\\\\nCD\nh.AB\\\\tCD\ni.AB\\\\bCD");

}

}

**Question 17**

class Example {

public static void main(String args[]){

System.out.println("( )/ | | |");

System.out.println(" | | | | | |");

System.out.println("| | | | | | |");

System.out.println("| | | | | | |");

System.out.println("| |\\ | | | |");

}

}

**Question 18**

class Example {

public static void main(String args[]){

System.out.println(" x");

System.out.println(" / \\");

System.out.println(" / \\");

System.out.println(" / \\");

System.out.println(" / \\");

System.out.println(" / \\");

System.out.println(" / \\");

System.out.println("'''''''''''''''");

System.out.println(" \_\_\_|\_|\_\_\_");

}

}

**Question 19**

public static void main(String args[]){

System.out.println(" +\"\"\"\"\"+");

System.out.println(" [| O O |]");

System.out.println(" | ^ |");

System.out.println(" | \'-\' |");

System.out.println(" +\'\'\'\'\'+");

System.out.println(" |||||||||");

System.out.println("/\\/\\/|||||||||||\\/\\/\\");

System.out.println(" |||||||||||||");

System.out.println(" |||||||||||||||");

System.out.println(" |||||||||||||");

System.out.println(" |||||||||||");

System.out.println(" |||||||||");

System.out.println(" /\\ /\\");

}

}

**Question 20**

Line 01 – Initiate integer Variable **i**

Line 02 – Assign the integer value of 103 for **i** variable.

Line 03 – printing i variable to console and output is 103.

**Question 21**

class Example {

public static void main(String args[]){

int x,y;

x=102;

y=103;

System.out.print(y+" "+x);

}

}

**Question 22**

**Compile time error**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\22>javac Example.java

Example.java:4: error: variable x might not have been initialized

System.out.println(x);

^

1 error

**Question 23**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\23>javac Example.java

Example.java:7: error: variable y is already defined in method main(String[])

int y=200;

^

1 error

**Question 24**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\24>java Example

100

200

100

300

Reason for variable **y** give 200 & 300 In the line 6, **300** is assigned to **y** variable again.

**Question 25**

**B) x=100;**

x+1 Cannot be insert because not assigned any value to **x** variable

int y = 100; in this case, not assigned any value to **x** variable

int x=200; cannot initiate **x** variable again.

Insert nothing. – will throw a error because assigned any value to **x** variable

**Question 26**

D. Compile error at line 6

**Question 27**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\27>java Example

**1020**

**30**

Line 01 - operation is string literal concatenation. Means 10 & 20 put there as a strings.

Line 02 - arithmetic operation (Add) of two Integer literals.

**Question 28**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\28>java Example

60

10+20+30

10+2030

102030

102030

3030

102030

**Question 29**

1. 6 - arithmetic operation of Integer literals.
2. 123 - string literal concatenation
3. 150 - each character is treated as its ASCII value because you are using single quotes ('). The ASCII value for '1' is 49, '2' is 50, and '3' is 51.
4. 1 2 3 – character literal concatenation with space
5. 198 - each character is treated as its ASCII value because you are using single quotes ('). The ASCII value for 'A' is 65, 'B' is 66, and 'C' is 67.
6. ABC - string literal concatenation
7. 365 – ASCII value for 'A' is 65. Whole operation would be arithmetic operation of Integer literals. (65+100+200)
8. A B C - character literal concatenation with space

**Question 30**

Instead of hardcoding the variable value in program, Scanner is use for get the keyboard input for assign the **i** value.

\*\* Scanner initiation missing the given code.

**Question 31**

import java.util.\*;

class Example{

public static void main(String[] args){

//a)

int x,y;

Scanner input=new Scanner(System.in);

System.out.print("Enter X Value :");

x=input.nextInt();

System.out.print("Enter Y Value :");

y=input.nextInt();

//b).

System.out.println("1st input-"+x);

System.out.println("2nd input-"+y);

//c).

int z;

z=x+y;

System.out.println(x+" "+y+" = "+z);

}

}

**Question 32**

import java.util.\*;

class Example{

public static void main(String[] args){

int x;

Scanner input=new Scanner(System.in);

System.out.print("Enter X Value :");

x=input.nextInt();

System.out.println("Input number:"+x);

System.out.println(x+""+x+""+x);

System.out.println(x\*3);

}

}

**Question 33**

import java.util.\*;

class Example{

public static void main(String[] args){

int p,q,r,s,t;

Scanner input=new Scanner(System.in);

System.out.println("Enter your Marks");

System.out.print("Combined Maths :");

p=input.nextInt();

System.out.print("Chemistry :");

q=input.nextInt();

System.out.print("Physics :");

r=input.nextInt();

System.out.print("English :");

s=input.nextInt();

t=p+q+r+s;

System.out.println("\n\n");

System.out.println("Combined Maths-"+p);

System.out.println("Chemistry -"+q);

System.out.println("Physics -"+r);

System.out.println("English -"+s);

System.out.println("Total -"+t);

}

}

**Question 34**

import java.util.\*;

class Example{

public static void main(String[] args){

int p,q,r;

Scanner input=new Scanner(System.in);

System.out.print("Enter Green Value :");

p=input.nextInt();

System.out.print("Enter Red Value :");

q=input.nextInt();

System.out.print("Enter Blue Value :");

r=input.nextInt();

System.out.println("Inversion of given color -["+(255-p)+","+(255-q)+","+(255-r)+"]");

}

}

**Question 35**

|  |  |  |
| --- | --- | --- |
| Data Type | Size | Description |
| byte | 1 byte | -128 to 127 |
| short | 2 bytes | -32,768 to 32,767 |
| int | 4 bytes | -2,147,483,648 to 2,147,483,647 |
| long | 8 bytes | -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 |
| float | 4 bytes | -3.4028235E38 to 3.4028235E38 |
| double | 8 bytes | -1.7976931E308 to 1.7976931E308 |
| boolean | 1 byte | true or false |
| char | 2 bytes | Stores single characters (e.g., 'a', 'A', '$', '1') |

**Question 36**

**Question 37**

B. l = 2187523347;

error: integer number too large

**Question 38**

**Question 39**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\39>java Example

32767

-32768

**Question 40**

E:\dev\ICM106\Programming Fundamentals\week\_02\Assignment\_02\40>java Example

A

66

A1

a

98

a1