|  |  |
| --- | --- |
| **Compiler** | **Interpreter** |
| Scan the entire program and translate it as whole into machine code | Translate program one statement at a time |
| Compiler will take large amount of time to analyze the code | Interpreter will takes less amount of time to analyze the code. |
| However overall execution time and complexity is faster than interpreter | However overall execution time and complexity is slower than compiler |
| Generate object code which further queries lining hence required more memory | No object code is generated hence are more efficient. |
| Programing language like c, c++, java uses compiler. | Programing like JavaScript, Ruby, and Python uses interpreter |
| Compiler Follows Source Code to object code to Machine | Interpreter follows Source Code to Intermediate Code to Interpreter |
| It is best suited for the Production Environment | It is best suited for the program and development environment. |
| Compliers generates intermediate machine code | Interpreter never generate any intermediate machine code |
| Display all errors after, compilation, all at the same time | Displays all errors of each line one by one |
|  |  |

**2)** **Few details of strongly typed language and loosely typed language minimum 4 examples?**

**A) Strong Type Language: -**

**1)** strongly typed language checks the type of a variable before performing an operation on it

**2)** A strongly typed language has stricter typing rules at compile time, which implies that errors and exceptions are more likely to happen during compilation

**3)** Most of these rules affect variable assignment, return values and function calling

**4)** For instance, Java is a strongly typed language because whenever you perform an operation on an object, Java checks the type of the object.

**Example:-** JAVA,Python can be both dynamically and strongly typed.

**Loosely Typed Language: -**

1. weakly typed language does not check the type of a variable before performing an operation on it
2. weakly typed languages perform implicit casts

Example: C Language, C++,.

1. **Work on data types? Write a Programs for Datatypes in java?**

**Source Code: -**

Package com.xworkz.virtusa;

public class DataTypes {

public static void main(String[] args)

{

int num=10;

double number=20.0;

String str="hello world";

char ch='s';

float f=3.7774f;

boolean bolean = false

System.***out***.println(num);

System.***out***.println(number);

System.***out***.println(str);

System.***out***.println(ch);

System.***out***.println(f);

System.***out***.println(bolean);

}

}

**O/P:**

10

20.0

Hello world

s

3.7774f

false

1. **Write the simplest code for the If, while ,for, switch?**

**For:**

package com.xworkz.virtusa;

public class ForLoop {

public static void main(String[] args) {

String str="sush";

for(int i=0;i<=str.length()-1;i++)

{

for(int j=0;j<=i;j++)

{

System.***out***.print(str.charAt(j));

}

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

}

}}

**O/P:**

s

su

sus

sush

**While:**

package com.xworkz.virtusa;

public class Whileloop {

public static void main(String[] args) {

int i=1;

while(i<=10){

system.out.println(i);

i++;

}

}

}

**O/P:**

1

2

3

4

5

6

7

8

9

10

**IF-Condition:**

package com.xworkz.virtusa;

public class IfCond {

public static void main(String[] args) {

int time=20;

if(time<18)

{

System.***out***.println(“Good Day”);

}

else

{

System.***out***.println(“good evening”);

}

}

}

O/P:

Good evening

**SWITCH Program:**

package com.xworkz.virtusa;

public class Switch {

public static void main(String[] args) {

int day = 4;

switch (day) {

case 1:

System.out.println("Monday");

break;

case 2:

System.out.println("Tuesday");

break;

case 3:

System.out.println("Wednesday");

break;

case 4:

System.out.println("Thursday");

break;

case 5:

System.out.println("Friday");

break;

case 6:

System.out.println("Saturday");

break;

case 7:

System.out.println("Sunday");

break;

}

}

}

**O/P:**

Thursday

1. **In a class create constructor and object use data members and function members?**

**Source Code:**

package com.xworkz.virtusa;

public class Student

{

public String *name*;

public int id;

public String collegeName;

public Constructor(String name,int id,String collegeName)

{

this.*name*=name;

this.*id*=id;

this.*collegeName*=collegeName;

}

public void display()

{

System.***out***.println("String "+*name*+" int "+*id*+" string "+*collegeName+*);

}

public static void main(String[] args)

{

Student stud = new Student(“sush”,1,"rymec");

stud.display();

}

}

O

**O/P:**

**String sush id 1 collegeName rymec**

1. Create a class create 2 constructors in a single class use both parameterizes and non-parametrized?

**Source Code:**

Package com.xworkz.virtusa;

public class Car {

static String *Name*;

public Car()

{

*Name*="ford";

}

public Car(String Name) {

this.*Name* = Name;

}

public static void main(String[] args)

{

Car obj = new Car("ford");

System.***out***.println(obj.*name*);

System.***out***.println(*name*);

}

}

**O/P:**

ford

ford