|  |  |
| --- | --- |
| **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** Demo;

**public** **class** Datatype {

**public** **static** **void** main(String[] args)

{

**int** num=10;

**double** n=20.0;

String str="sharada";

**char** ch='s';

**float** ft=1.1f;

**boolean** bol=**true**;

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

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

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

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

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

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

}

}

**O/P:**

10

20.0

sharada

s

1.1

true

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

**For:**

**package** Demo;

**public** **class** ForLoop

{

**public** **static** **void** test(**int** n)

{

**for**(**int** count=1;count<=n;count++)

{

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

}

}

**public** **static** **void** main(String[] args)

{

*test*(4);

}

}

**O/P:**

hello virtusa

hello virtusa

hello virtusa

hello virtusa

**While:**

**package** Demo;

**public** **class** While

{

**public** **static** **void** test(**int** n)

{

**int** count=1;

**while**(count<=n)

{

System.***out***.println("life is beautiful");

count++;

}

}

**public** **static** **void** main(String[] args)

{

*test*(3);

}

}

**O/P:**

life is beautiful

life is beautiful

life is beautiful

**if-else Condition:**

**package** Demo;

**public** **class** FirstDemo

{

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

**int** a=10;

**int** b=5;

**if**(a>b)

{

System.***out***.println("a is greater");

}

**else**

{

System.***out***.println("b is greater");

}

}

}

O/P:

a is greater

**SWITCH Program:**

**package** Demo;

**public** **class** Switch

{

**public** **static** **void** main(String[] args) {

**int** n=5;

**switch**(n)

{

**case** 10:System.***out***.println("10");

**break**;

**case** 5:System.***out***.println("5");

**break**;

**default**:System.***out***.println("not in 10,5");

}

}

}

**O/P:**

5

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

**Source Code:**

**package** Demo;

**public** **class** Construct1

{

String name;

**int** id;

**double** sal;

**public** Construct1(String name, **int** id, **double** sal)

{

**super**();

**this**.name = name;

**this**.id = id;

**this**.sal = sal;

}

**public** **void** showdetails()

{

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

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

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

}

}

**package** Demo;

**public** **class** construct2

{

**public** **static** **void** main(String[] args)

{

Construct1 c1=**new** Construct1("sharada",863,360000);

c1.showdetails();

}

}

**O/P:**

sharada

863

360000.0

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

**Source Code:**

**package** Demo;

**public** **class** construct3

{

**public** construct3()

{

System.***out***.println("this is constructor");

}

**public** construct3(**int** a)

{

System.***out***.println("this is parameterized constructor");

}

**public** **static** **void** main(String[] args)

{

**new** construct3();

**new** construct3(3);

}

}

**O/P:**

this is constructor

this is parameterized constructor