**JAVA**

* Java is a high level and object-oriented programming language
* James Gosling is the father of the java and developed in 1995
* He was working in sun microsystem now it is taken by the oracle company
* He was the member of green team and they developed a language called java initially it was known as oak
* Java is platform independent [it can run on any platform]
* Java is highly secured programming language compare to python
* Java is robust in nature [very strong]
* It is portable in nature
* It is multi-threaded in nature

**Object:** anything which has physical existence is called object

For every object two things are important

1. Property/attributes/states
2. Behaviour

Object-Oriented: In java everything is object oriented

**Class:** it is a blue print of an object with help of these we can create an object.

In a class we can create n number of objects

**Data types:**

1)primitive data types – it can store only value at a time and they started with small letters

Examples -int, float, short, byte, long, double, char, boolean

2)Non primitive data types – it can store multiple values at a time and they started with capital letters

Examples – string, class, arrays

**Variables:** it’s like container for storing data

->it is a data holder / container which is used to store data and data will vary from one person to another person

->They are two types of variables

1)static 2)Instance [Non static]

* For static variables creation of object is not required [not mandatory]

->We can call directly

* For non-static variables creation of object is required [mandatory]

->We cannot call directly

Example:

int a; // declaration of variable

a=7; // initialization of variable

**Types of variables**

1)global 2) local

Global - it is a type of variable which we are declaring inside the class and outside the local scope

->we can access global variable throughout the class

Local variable - it is a type of variable which we are writing inside the local scope

->we can access local variable only within local scope

**Constant:** it is the data holder in which we will store the data and the data will be fixed

**JVM-** convert bytecode into run in specific platform [java virtual machine]

Data - it is a collection of information

**Data types:**

Static - a variable which is prefix with static keyword we will call it is as static variable

Non-static - a variable which is not prefix with static keyword we will call it is as non-static variable

**KEYWORDS**

->Keywords are predefined words which are to used to perform some specific task

->keywords are reserved words [static, new, final, extends, implements, try, catch, for, while, do-while, switch etc]

->We cannot to do any modification on keywords

->All primitive data types are example of keyword

**Identifier**- The name given by the programmer to the components of class is called an identifier

-> All Java **variables** must be **identified** with **unique names**.

-> These unique names are called **identifiers**.

Example – class name, variable name, interface name, enum name, method name

Rules

1. Class name should not start with number
2. Class name cannot have character space
3. Class name cannot be a keyword
4. It cannot have special characters except dollar and underscore
5. Names are case sensitive ("myVar" and "myvar" are different variables)
6. Reserved words (like Java keywords, such as int or boolean ) cannot be used as names

**Class-**We have to write a class name in upper camel case

**Method** -method name will be in lower camel case

->We have to write package name always in lower case

-> We have to write variable in lower case

**ACCESS MODIFIER –** there are 4 types

1. public
2. private
3. protected
4. default

|  |  |  |
| --- | --- | --- |
| **Data Type** | **Size** | **Default Value** |
| byte | 1 byte | 0 |
| short | 2 bytes | 0 |
| int | 4 bytes | 0 |
| long | 8 bytes | 01/L |
| float | 4 bytes | 0.0f/F |
| double | 8 bytes | 0.0d/D |
| boolean | 1 bit | false |
| char | 2 bytes | Null |

**For loop:**

for(initialize; condition; increment/decrement)

{

Stats;

}

**While loop:**

While(condition)

{

Stats;

+ + (or) - -

}

**Method**: it is a component of the class or it is some set of instructions which is used to perform some specific task

Types of methods

1)parameterized method – in this method we are passing the parameter in the method declaration statement

2)Non-parameterized method – a method which does not have formal arguments or parameter we will call it is as non-parameterized method

Syntax for methods:

1)parameterized method

Access\_modifier return\_Type method name(datatype variable)

{

// stats;

return stats;

}

2)Non-parameterized method

Access\_modifier return\_Type method name()

{

// stats;

return stats;

}