-A programming language is a set of grammatical rules given by compiler for instructions a computer or machine to perform a specific task.

-For eg.:- C,C++,objective,swift,COBOL,PASCAL,pearl,java python and so on.

-LTS:- Long Term Support.

Keywords:- Keywords are the predefine reserved words.

* There are 53 reserved words in java.In this 53 words 50 are Keywords and remaining 3 are literals.
* Java is a highly case sensitive language & all the reserve words are always written in small letters.
* Outside class nothing is possible in java except two statements:-

1.Input statement

2.Package statement

-For public class ,class name and filename must be same

-A class can not be private

-Reserve word of windows

1.con

2.aux

3.prn

4.com(1-9)

5.LPT(1-9)

6.nul

After compilation java compiler generates byte code in the form of .class file

* Standards for class name

1. Class name should be meaningful
2. Class name should be in camel case
3. Class name should be noun

* Rules for class name:-

1. Class name does not have whitespaces
2. Class name does not have any special character except dollars($) and underscore(-)
3. class name must start wih non digit character
4. class name can contain digits but after first place
5. class name does not have duplicate as keywords

* Executable class:-

1. Must have default main method
2. The syntax default main method is public static void main(String[] args)
3. Main method is entry pointof a class
4. Main method is called by jvmat runtime
5. Jvm stands for java virtual machine
6. Without the concept of jvm they cannot execute any instruction

->Mainpulation of name method:-

* + Standard input and output device is known as console
  + Control statements are those statements which are responsible to change the flow of execution of a program
  + There are mainly three statements
  + Decision making statements
  + Iteration statements
  + Branching statement

->Decision making statements:-

* + There are four decision making statements
  + If statements
  + Ifelse statements
  + Ladder ifelse statements
  + Nested ifelse statements
  + If and else both are keyword injava
  + Syntax of ifelse statemenets
  + If and else both are couple must written together

->Iteration statements:-

* While loop
* For loop
* Nested for loop
* Labling of loops
* Break statements
* Continue statements
* Do while loop
* Nested dowhile
* For each loop
* Manipulation of ifelse
* Manipulation of while
* Manipulation of for
* Manipulation of loop

ANDROID:-

* Android is an open source linux based operating system
* Operating system has two components
* 1.kernel 2.shell
* System Software has two components
* 1.Operating system 2.Drivers
* Unix based architecture are free or open source
* Dosh based architecture are paid or closed source
* In general operating system is an interface between user and hardware
* In technical words operation system is collection of subroutines
* In year 2003 android and corporation were established
* “Droid” means robot
* There are two types of application in android application system
* 1.Static Application2.Dynamic Application
* Static application are those application that does not required internet conection to run and execute
* Dynamic application are those application which required internet connection and provide dynamic response on each client request
* E.G. Instagram
* Frontend and Backend:-
* FRONTEND

1. Frontend as a name suggest it is visual part of the application or user interface part
2. UI/UX part is also the part of frontend
3. XML provides frontend functionalities in android

* BACKEND

1. Java and kotlin provides backend part of android
2. XML stands for extensible markup language
3. Markup langauges are tag based languages
4. XML provides the support of custom tags
5. XML is a parser based language
6. Simple API for XML(parser name of XML)
7. SAX parser
8. Parser means converter

* Object oriented Paradigm

1. Encapsulation
2. Inheritance
3. Polymorphism
4. Abstraction

Encapsulation:-Wrapping up data members and member functions in a single unit that unit is known as class and the concept is known as encapsulation.

Inheritance:-To acquire the property of parent and to create specialize property is known as inheritance.

Types of inheritance supported by java:

1.single inheritance

2.multilevel inheritance

3.hierarchical inheritance

Inheritance also known as is-a relationship

To achieve inheritance in java we use extends keywords

Object class is the parent most class in java

Directly and indirectly is the child of object class

Types of comments:

There are three types of comment in java

* Single line comment //
* Multiline comment /\* \*/
* Documentation comment /\*\* \*/

Multiline comment never include in documentation part but documentation includes in documentation part.

We can create documentation of java classes.

If a class does not have any constructor than default constructor will create by java compiler.

* Inheritance that does not supported by java.

1. Multiple inheritance
2. Hybrid inheritance
3. Diamond inheritance
4. Cyclic inheritance

Polymorphism:-One name with multiple form is known as polymorphism

There are two type of polymorphism java :

1. Static polymorphism
2. Dynamic polymorphism

* Static polymorphism

There are two type of static polymorphism

1. Method Overloaded
2. Method Hiding

* Dynamic polymorphism

To achieve dynamic polymorphism we have concept of method overriding

* Method Overridden

1. Method name must be same
2. Method argument must be same
3. Method return type must be same bur from JDK 1.5 covariant return type is possible
4. Parent class is known as overridden method and child class is known as overidding
5. Not possible without inheritance
6. Instance type determines which overridden method will be call at runtime
7. Final method,abstract method,static method and private method cannot be overridden.

* Access Modifiers:

1. It show the instances of class method variables in its scope.
2. There are more access modifiers in java.
3. There are four access modifiers in java.
4. Public>protected>default>private

* Final keywords

1. It is used with a class,method and attributes
2. It be declare class final and does not have children
3. If we declare a method final where we cannot override it
4. If we declare attribute final where we cannot change the value of attribute
5. Goto and cons are not defined yet
6. Method overriding is to write a method as it’s in a child class that is already available in a parent class is known as method overidding
7. If a child class is not satisfied with a parent’s class method then child class overrides its

* Abstract class

1. Abstract is a keyword in java
2. Concrete method: A method having body is known as concrete method
3. Concrete class: The class that only method is known as concrete class
4. Abstract method: A method that does not have a method body and declared abstract
5. Abstract class: A class that contain both abstract and concrete method and declare a with a keyword abstract is known as abstract class

* Interface

1. Interface contain only abstract method whether they are declaring or not
2. Interface method must be public or abstract
3. Interface define by the keyword interface
4. Interface does not have variables
5. Interface contain only constant
6. Interface does not contain final method
7. Interface does not have constructors
8. Interface cannot be instantiated

* Exception Handling

Exception is a condition that abnormally terminates the java program

SQL

* MY SQL CREATES:
* Create database itm\_bu;
* Use database itm\_bu;
* Create table tablename;

Key or key Attributes

Minimal number of attributes use to differentiate with tuples of relation

Attributes means column

Tuples means rows

Relation means table

There are seven types of keys in sql

1. candidate key
2. primary key(unique and not null)
3. alter key
4. super key(set of attributes use to differentiate tuples of relation)
5. composite key(set of attributes use to differentiate tuples of relation)
6. foreign key(an attribute of a table reference to the primary key of another table or primary key of same table is known as foreign key)
7. unique key (attribute must be unique and must be not null but it accept only one null value)

* What is difference between primary key and alter key?

-Primary key cannot be null but Alter key can be null

Practical concept

1. primary key
2. composite key
3. foreign key
4. unique key

Theoritical concept

1. super key
2. alternate key

ACID:-

Acid stands for Atomicity consistency isolation durability

Atomicity:-

Complete or nothing theory

Transaction is a logical unit word that changes the state of database

Isolation:-

Transaction must be independent

Package name should be in this order:

* domain.organizationname.packagename
* e.g.: in.ac.itmbu.

this keyword:

* this keyword is responsible to wapper current class global variables current class method and to invoked a constructor in another constructor in same class

super keyword:

* super keyword is responsible to wapper direct parent class variables and methods and it is also responsible to invoked a constructor in another constructor of parent class

Note: We can run android application in two ways

1. Run on android virtual device

2. Run on physical device

Executable file of android application is .apk

Apk contains following things

1. source code of application
2. resources of application
3. asset etc

mainactivity.java is backend of android application

activity\_main.xml is frontend of android application

J2SE : Java 2 Standard Edition

JSE : Java Standard Edition

Core Java

Desktop application

J2EE: Java 2 Enterprise Edition

JEE : Java Enterprise Edition

Advance Java+Frameworks

Enterprise Applicaton or Dynamic Wed Application

J2Me : Java 2 Micro Edition

JME : Java Micro Edition

Embedded System Mobile Application

XML IN ANDROID STUDIO

We create xml layout in android and later we will alter them by using java logic

Resources:

Resources are the additional file and static content and application need such as animation,layout,colours and menu layout

Each layout file must contain one or more elements

* View

-It represent rectangular area and it is responsible to display information or content or error handling and event handling

-Text,image button are the views in android

* View group

-It is one of the important container that holds multiple views

-It is invisible container

-It is also responsible to define their layout and properties

-Common view groups are as follows

1.list view:

-It display a list of scrollable item

2.Grid view

-It displays items in a 2 dimensional scrollable gride

Table layout:

-It groups element in rows and columns

3.Root view:

-It is the root element of xml layout file

-A linear layout aligns its content into a single direction

-It may be in vertical direction or horizontal direction

Relative layout:

-It displays child content in position relative to the parent

Frame layout:

-It is a placeholder on a screen that display only single view

* XML is a case-sensitive language
* XML ns stands for XML name space
* Uri stands for uniform resource identifier
* It is a string of character use to identified name of resource
* Such Identification enables interaction with representation resources over a network, it may be in world wide web
* XML NS are use to provide uniquely named items and attributes in an xml document
* XML NS android described
* Some of the important attributes are as follow:
* Android colon
* Android :layout\_width
* Android :layout\_height
* Android : text

JAVA DATABASE CONNECTIVITY

* Load the driver
* Connection established
* Create statement
* Execute the query
* Release the resources
* Java mai class hai jiska class ka class ka actual name class name hai
* sun.jdbc.odbc.jdbc0dbcDriver is deprecated from JDK 1.8
* com.mysql.jdbc.Driver
* what is difference check exception and unchecked exception
* exception which are check by compiler is known as check exception and it is mandatory to handle check exception if we do not handle check exception then compilation error will be raise saying unreported exception ClassNotFoundException are reported exception must be caught or declare to be thrown.
* how to set class path temperoray
* set classpath=;e:/software Technical/Java/Jar\_File/mysql-connector-java-5.0.8-bin.jar

SQL divided into three query

DDL–data definition language

DML- data manipulation language

DQL/DRL-data query language/data recruitment language

Execution of program is from left to right and top to bottom

How to fetch data from database by using java program

Step1:

Com.mysql.jdbc.Driver

Step2:

Connection con=DriverManager.getConnection(“jdbc:mysql://

Statement stmt =con.CreateStatement()

Import java.sql.Connection;

Import java.sql.Statement

Step3:

Stmt.to fire dql jdbc provides us execute query method in the odject of statement

Resultset rs = stmt.executeQuery();

Resultset is an interface available in java.sqlpackage

Resultset is a cursor