IDE:- (Integrated Development Environment)

* Compiler
* Interpreter
* Debug
* Test
* Documentation
* Build

Java based IDE:-

Elicpse

Intelij

Netbeans

JCreator

Java application – console – java perspective

Java web application – java EE

Fahrenhiet to Centigrade

C/5 = (F-32)/9

Naming convention of java programming:-

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

class name - each word starting letter must be in capital

reserved keywords - for, while, do, class, public, switch, static

\* all letters in lowercase

variable name

- if variable is a single word

\* all letters must be in lowercase

- if variable has more than one word

\* First word all letters must be in lowercase

\* second word onwards each word starting letter

must be in capital

- if the variable is an constant variable

\* all words letters in capital

method name

- if method name is a single word

\* all letters must be in lowercase followed by ()

- if method name has more than one word

\* First word all letters must be in lowercase

\* second word onwards each word starting letter

must be in capital follwed by ()

interface name - each word starting letter must be in capital

packages name- all letters in must be in smaller letters

Variable:-

Variable is an identity to the memory location

variable:-

It is an identity to the memory location

Types of variable:-

1. instance variable

A variable declared inside the class and outside of any method

2. static variable

A variable declared inside the class and outside of any method with the static keyword

3. local variable

A variable declared inside the class and inside any of the method or inside the block

Scope-> how far that variable can be accessable

Lifetime-> That variable how long it is going to be there in the memory

Eg:

public class Trainee {

int traineeId; // primitive instance variable

String traineeName;//reference instance variable

static String location;//static reference variable

static int traineeSalary; //static primitive variable

public static void main(String[] args) {

int total; // local variable

{

int a; //local variable

}

}

}

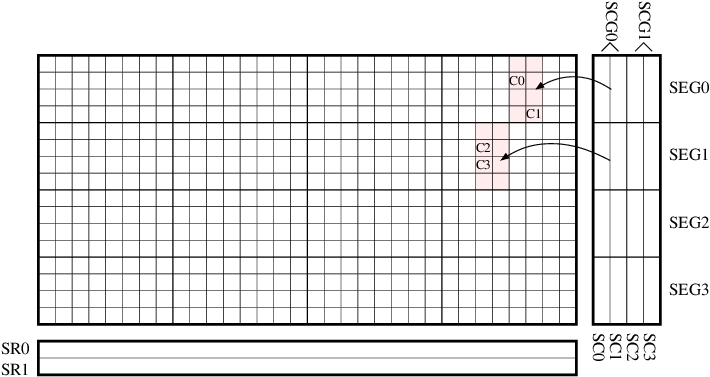
Customerid =5657 -> byte,short,int,long

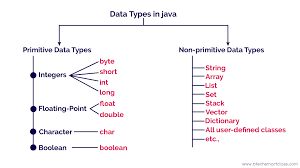
Name=”rajesh” -> String

Roi = 5.6f;-> float, double

Gender =’m’ -> char

MARRITALSTATUS = true or false-> boolean







Accessspecifier returntype methodname(){

Statements;

Statements;

}

Method without an argument without return type

public void emiEstimation() {

}

Method with an arguement without return type

public void emiEstimation(arg) {

}

Method without an argument with return type

public datatype emiEstimation() {

return value;

}

Method withan arguement without return type

public datatype emiEstimation(arg) {

return value;

}

Java:-

Is an object oriented Language

Class and objects

Objects-> real-world existing things are object

Properties

Behavior

Chair -> objects

Properties

Price, type, cushion, capacity,color,

Behavior

Sit(), rolling(), adjustHeight();

Trainee – object

Id, name, salary, technology,email,phone

Learning(), assignment(),task(),break()

Classname referencevariablename=new Classname();

Scanner s=new Scanner();

Trainee t=new Trainee();

Packages:

* To organize related java classes or grouping the related classes
* Class name collision
* Visibility

Banking

Account.java

Customer.java

Transaction.java

Deposit.java

Withrawl.java

Creditacred.java

Debitcard.java

Cheque.java

Statement.java

Loan.java

CarLoan.java

HomeLoan.java

Access Modifier:-

* Visibility – how far class and class members can be access
  + - Before the class
    - Before the variable
    - Before the methods
    - Before the constructor

Public

Private -> can be accessible with in the class

Default

Protected

SQL:-

* It’s is a standard language for communicating with relational databases
* Query -> it is an command or request sent to the database

Database -> collection of tables

Table -> rows and columns

SHOW DATABASES;

CREATE DATABASE databasename;

DROP DATABASE databasename;

USE databasename;

Table -> structure

-> tablename, columnname, datatype(size),constraints

Managing the table structure:-

1. create a table

2. Alter the table – add a column, remove a column, rename the column

3. drop the table

4. rename the table

5. view the table structure

1. Create a table

CREATE TABLE tablename(column1name datatype(size),

Column2name datatype (size), column3name datatype (size),

……);

CREATE TABLE tablename(column1name datatype(size) CONSTRAINT constraintname constrainttype,

Column2name datatype (size) CONSTRAINT constraintname constrainttype, column3name datatype (size) CONSTRAINT constraintname constrainttype,

……);

2. To view table structure or definition

DESC tablename;

3. Alter the table – Add a column

ALTER TABLE tablename ADD COLUMN columnname datatype(size)

4. Alter the table – Drop a column

ALTER TABLE tablename DROP COLUMN columnname;

5. Alter the table – Rename the columnname

ALTER TABLE tablename RENAME COLUMN oldcolumnname TO newcolumnname;

6. Alter the table – Modify the datatype and size

ALTER TABLE tablename MODIFY COLUMN columnname newdatatype(newsize)

6. Rename the table

ALTER TABLE tablename RENAME TO newtablename;

7. delete a table

DROP TABLE tablename

Data:-

Insert row data

INSERT INTO tablename VALUES(value1,value2,value3…);

INSERT INTO tablename(Columnname1,

Columnname2,…)VALUES(value1,valu2,valu3,…..)

Select row data

SELECT \* FROM tablename;

SELECT \* FROM tablename WHERE columnname=value;

Update row data

UPDATE tablename SET columnname1=newvalue1, columnname2=newvalue2,…;

Delete row data

DELETE FROM tablename where name=’RAJESH’

DDL:(Data Definition Language)

Create

Alter

Drop

Truncate

Desc

Rename

DML(Data Manipulation Language)

Insert

Delete

Update

DQL(Data Query Language)

Select

TCL(Transaction Control Language) – group of sql query operation - transaction

Rollback -> reverse the changes

Commit –> permanently stores the data into the db

Savepoint -> point where the instance of the database

DCL (Data Control Language) -> username -> root , password -> root

Grant

GRANT PRIVILEGES ON databasename.tablename TO username;

Revoke

REVOKE PRIVILEGES ON databasename.tablename FROM username

How to create users in sql:-

CREATE USER username IDENTIFIED BY ‘PASSWORD’;

How to drop the user:-

DROP USER username;

How to login as a different user:

mysql> system mysql -u rajesh -p;

Clauses:-

* It filter the things

Use clause -> filters the database

Select clause -> filter takes the column

From clause -> filters the table in a database

Where clause -> filter the rows

Order by clause -> it applies sortingfilter(asc|desc)

Group by clause -> it is going group the records

Having clause -> it is an filter applied on group by result

Set clause

Aggregate Function:-

It takes a group of data -> process -> one result

Sum(data)

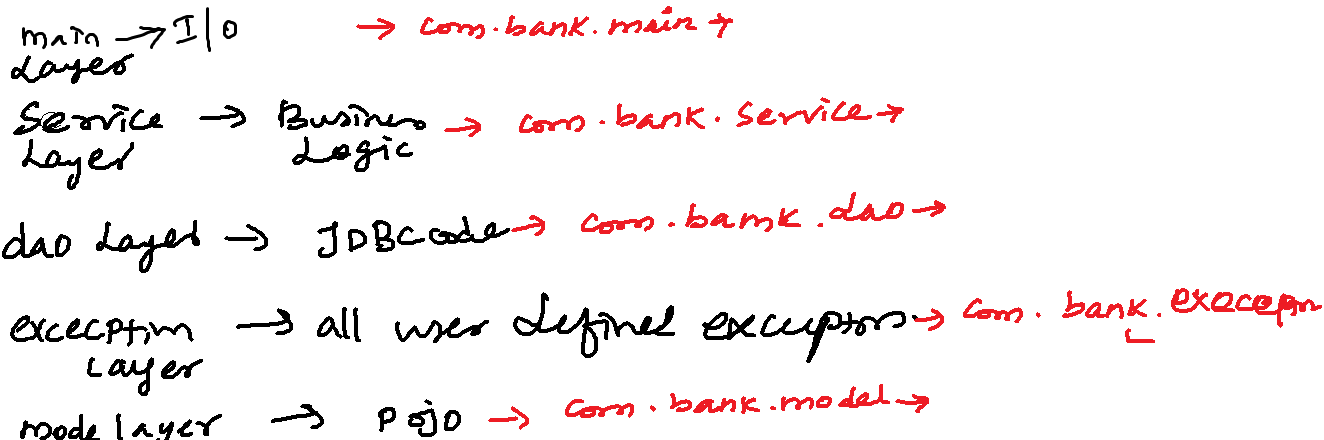
Min(data)

Max(data)

Count(data)

Avg(data)

Project Layers



student

id | name | email | phone | cgpa | dob | year |

int varchar varchar(10) int(1)

+------+---------+-------------------+---------+------+------------+------+

| 343 | rahul | rahul@gmail,com | 4578554 | 8.9 | 2002-03-23 | 3 |

| 567 | vanathi | vanathi@gmail.com | 4578554 | 7.9 | 1982-02-02 | 2 |

| 676 | vamsi | vamsi@gmail.com | 4578554 | 7.9 | 1982-02-02 | 2 |

| 686 | sai | sai@gmail.com | 4578554 | 7.8 | NULL | NULL |

Constraint:-

It’s a condition or rule applied to the column

1. Domain constraint

Datatype -> it restrict what type of data can that column accepts

Size -> it is going restrict the length of the data

2. Integrity Constraints

Not null -> That column will not accept null value but it aceepts duplicate

Unique -> That column will not accept duplicate data but it will accepts null value

Primary key -> unique + not null -> will not accept duplicate,null

Check

Default

2. Referential Constraint

Foreign key -> Always refers to the primary key of another table

JDBC

JDBC API -> set of interfaces and abstract class and concrete class

DriverManager 🡪 getConnection method

Connection interface -> abstract methods

Statement interface -> abstract methods

PreparedStatement

CallableStatement

java.sql,javax.sql

Steps to connect:-

2. Get the Connection reference

Connection con=DriverManager.getConnection(url,username,password);

3. create a statement reference

Statement stmt=con.createStatement();

4. execute the query

Insert -> write 🡪

int executeUpdate(“sql insert query”)

Delete -> write 🡪

int executeUpdate(“sql delete query”)

Update -> write 🡪

int executeUpdate(“sql update query”)

Select -> read 🡪

ResultSet executeQuery(“sql select query”)

DDL and DML

boolean execute(“dml or ddl query”)

5. close the connection

Static SQL Query

Select \* from college departmentId=100;

Dynamic SQL Query

Select \* from college departmentId=?;

PL/SQL;

Variablename datatype(size);

Variable, procedure, function, triggers etc.,.

Procedure

* + - Zero or more values
    - Used for process the dml commands
    - Precompiled
    - 5 insert, 2 delete, 1 updates
    - secure

Functions

* + - Always it will return only one value
    - Used for calculation
    - Secure