**SQL ASSIGNMENT**

CREATE DATABASE ProgrammerDetails;

USE ProgrammerDetails;

CREATE TABLE Programmer (

Name varchar(30) not null,

DOB date not null,

DOJ date not null,

Sex varchar(6) not null,

Prof1 varchar(20) not null,

Prof2 varchar(20) not null,

Salary float(7,2) not null

);

INSERT INTO Programmer (Name, DOB, DOJ, Sex, Prof1, Prof2, Salary) VALUES

('Rahul', '1990-05-15', '2015-07-01', 'Male', 'Pascal', 'Basic', 50000.00),

('Priya', '1988-10-22', '2016-02-10', 'Female', 'C', 'Pascal', 5000.00),

('Amit Singh', '1992-03-07', '2014-09-05', 'Male', 'Oracle', 'C', 60000.00),

('Deepika Gupta', '1995-12-18', '2017-01-20', 'Female', 'Cobol', 'C++', 48000.00),

('Rajesh Kumar', '1985-08-30', '2013-05-10', 'Male', 'C++', 'Dbase', 70000.00),

('Sneha', '1993-07-25', '2018-04-12', 'Female', 'Cobol', 'Basic', 65000.00),

('Vikram Singh', '1991-11-05', '2015-09-15', 'Male', 'Clipper', 'Clipper', 53000.00),

('Nikitha', '1989-06-12', '2016-06-30', 'Female', 'C', 'Dbase', 62000.00),

('Ankit Patel', '1994-01-20', '2019-03-05', 'Male', 'Clipper', 'C++', 8000.00),

('Kavita', '1990-09-08', '2014-08-25', 'Female', 'Basicl', 'Cobol', 56000.00),

('Arun Kumar', '1987-02-14', '2017-07-18', 'Male', 'Dbase', 'Basic', 59000.00),

('Pooja', '1996-01-30', '2018-10-10', 'Female', 'Oracle', 'C', 61000.00),

('Mohit Gupta', '1992-06-05', '2015-12-20', 'Male', 'C++', 'Oracle', 54000.00),

('Shalini', '1988-04-12', '2016-11-15', 'Female', 'Dbase', 'Pascal', 6000.00),

('Ramesh Kumar', '1993-10-01', '2019-05-25', 'Male', 'Pascal', 'Oracle', 67000.00);

select \* from Programmer;

CREATE TABLE Software (

Name varchar(30) not null,

Title varchar(15) not null,

Lang\_Dev varchar(15) not null,

Softwarecost decimal(7,2),

DevelopmentCost int(5),

No\_of\_SoftwareSold int(3)

);

INSERT INTO Software (Name, Title, Lang\_Dev, Softwarecost, DevelopmentCost, No\_of\_SoftwareSold) VALUES

('Somdutt', 'Parachutes', 'Basic', 399.95, 6000, 43),

('Ramesh', 'AeroFly', 'C++', 499.99, 7500, 57),

('Suresh', 'SkySail', 'Pascal', 299.99, 5500, 30),

('Meera', 'CloudRunner', 'Python', 599.95, 8000, 25),

('Aarav', 'SpaceCraft', 'Basic', 349.99, 7000, 39),

('Priya', 'SkySail', 'Clipper', 249.95, 4500, 20),

('Rahul', 'CloudRunner', 'C#', 449.99, 6500, 35),

('Kavita', 'AeroFly', 'PHP', 399.95, 6000, 43),

('Amit', 'Parachutes', 'Cobol', 549.99, 8500, 28),

('Anushka', 'SpaceCraft', 'Kotlin', 299.95, 5000, 38);

select \* from Software;

CREATE TABLE Studies (

Name varchar(30) not null,

Stu\_place varchar(20) not null,

Course varchar(20) not null,

Course\_cost decimal(10,2) not null

);

INSERT INTO Studies (Name, Stu\_place, Course, Course\_cost) VALUES

('Somdutt', 'Sabhari', 'PGDCA', 4500.00),

('Devdutt', 'BDPS', 'DCS', 5000.00),

('Rahul', 'XYZ Institute', 'MBA', 12000.00),

('Priya', 'ABC College', 'B.Tech', 8000.00),

('Amit', 'DEF University', 'MCA', 6000.00),

('Suresh', 'SECE', 'DCS', 3000.00),

('Meera', 'JKL Academy', 'B.Sc', 7000.00),

('Kavita', 'SSIL','PGDCA',500.00),

('Ankit', 'PQR College', 'M.Tech', 10000.00),

('Neha', 'STU University', 'PGDCA', 15000.00);

**Query 1**

**-- 1) Find out the SELLING COST AVERAGE for the packages developed in PASCAL?**

**SELECT AVG(Softwarecost) AS SellingCostAverage**

**FROM Software**

**WHERE Lang\_Dev = 'PASCAL';**

**-- 2) Display the names and ages of all programmers.**

**SELECT Name, TIMESTAMPDIFF(YEAR, DOB, CURDATE()) AS Age**

**FROM Programmer;**

**-- 3) Display the names and ages of all the programmers who have undergone training in DCS course.**

**SELECT P.Name, TIMESTAMPDIFF(YEAR, P.DOB, CURDATE()) AS Age**

**FROM Programmer P**

**JOIN Studies S ON P.Name = S.Name**

**WHERE S.Course = 'DCS';**

**-- 4) What is the highest numbers of copies sold by a package?**

**SELECT MAX(Softwarecost) AS HighestNumberOfCopiesSold**

**FROM Software;**

**-- 5) Display the names and date of birth of all the programmer born in JANUARY.**

**SELECT Name, DOB**

**FROM Programmer**

**WHERE MONTH(DOB) = 1;**

**-- 6) Display lowest course fee.**

**SELECT MIN(Course\_cost) AS LowestCourseFee**

**FROM Studies;**

**-- 7) How many programmer has done PGDCA course.**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Studies**

**WHERE Course = 'PGDCA';**

**-- 8) How much revenue has been earned through sales of packages in C.**

**SELECT SUM(Softwarecost) AS RevenueEarned**

**FROM Software**

**WHERE Lang\_Dev = 'C';**

**-- 9) Display the details of software developed by Ramesh?**

**SELECT \***

**FROM Software**

**WHERE Name = 'Ramesh';**

**-- 10) How many programmers studied at SABHARI.**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Studies**

**WHERE Stu\_place = 'SABHARI';**

**-- 11) Display the details of PACKAGES whose sales crossed the 20000 mark.**

**SELECT \* FROM Software WHERE Softwarecost > 20000;**

**-- 12) Find out the number of copies which should be sold in order to recover the development cost of**

**-- each package.**

**SELECT Title, CEIL(DevelopmentCost / Softwarecost) AS CopiesToBeSold**

**FROM Software;**

**-- 13) What is the price of the costliest software developed in BASIC?**

**SELECT MAX(Softwarecost) AS CostliestSoftwarePrice**

**FROM Software**

**WHERE Lang\_Dev = 'BASIC';**

**-- 14) Display the details of packages for which development cost has been recovered.**

**SELECT \***

**FROM Software**

**WHERE Softwarecost \* Softwarecost >= DevelopmentCost;**

**-- 15) How many packages were developed in dbase?**

**SELECT COUNT(\*) AS NumberOfPackages**

**FROM Software**

**WHERE Lang\_Dev = 'dbase';**

**-- 16) How many programmers studies at paragathi?**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Studies**

**WHERE Stu\_place = 'paragathi';**

**-- 17) How many programmers paid 5000 to 10000 for their course?**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Studies**

**WHERE CAST(REPLACE(Course\_cost, ',', '') AS UNSIGNED) BETWEEN 5000 AND 10000;**

**-- 18) What is the average course fee?**

**SELECT AVG(CAST(REPLACE(Course\_cost, ',', '') AS DECIMAL)) AS AverageCourseFee**

**FROM Studies;**

**-- 19) Display the details of programmers knowing c?**

**SELECT \***

**FROM Programmer**

**WHERE Prof1 = 'c' OR Prof2 = 'c';**

**-- 20) How many programmers know either Cobol or Pascal?**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Programmer**

**WHERE Prof1 IN ('Cobol', 'Pascal') OR Prof2 IN ('Cobol', 'Pascal');**

**-- 21) How many programmers don't know Pascal & C?**

**SELECT COUNT(\*) AS NumberOfProgrammers**

**FROM Programmer**

**WHERE Prof1 NOT IN ('Pascal', 'C') AND Prof2 NOT IN ('Pascal', 'C');**

**-- 22) How old is the oldest male programmers?**

**SELECT MAX(TIMESTAMPDIFF(YEAR, DOB, CURDATE())) AS OldestMaleAge**

**FROM Programmer**

**WHERE Sex = 'Male';**

**-- 23) What is the average age of female programmers?**

**SELECT AVG(TIMESTAMPDIFF(YEAR, DOB, CURDATE())) AS AverageFemaleAge**

**FROM Programmer**

**WHERE Sex = 'Female';**

**-- 24) Calculate the experience in years for each programmers and display along with the names in**

**-- descending order?**

**SELECT Name, TIMESTAMPDIFF(YEAR, DOB, CURDATE()) AS Experience**

**FROM Programmer**

**ORDER BY Experience DESC;**

**-- 25) Who are the programmers who celebrate their birthday during the current month?**

**SELECT Name**

**FROM Programmer**

**WHERE MONTH(DOB) = MONTH(CURDATE());**

**-- 26) How many female programmers are there?**

**SELECT COUNT(\*) AS NumberOfFemaleProgrammers**

**FROM Programmer**

**WHERE Sex = 'Female';**

**-- 27) What are the languages known by the male programmers?**

**SELECT DISTINCT Prof1, Prof2**

**FROM Programmer**

**WHERE Sex = 'Male';**

**-- 28) What is the Average salary?**

**SELECT AVG(Salary) AS AverageSalary**

**FROM Programmer;**

**-- 29) How many people draw 2000 to 4000?**

**SELECT COUNT(\*) AS NumberOfPeople**

**FROM Programmer**

**WHERE Salary BETWEEN 2000 AND 4000;**

**-- 30) Display the details of those who don't know Clipper, Cobol or Pascal?**

**SELECT \***

**FROM Programmer**

**WHERE Prof1 NOT IN ('Clipper', 'Cobol', 'Pascal') AND Prof2 NOT IN ('Clipper', 'Cobol', 'Pascal');**

**-- 31) How many Female programmers knowing C are above 24 years of age?**

**SELECT COUNT(\*) AS NumberOfFemaleProgrammers**

**FROM Programmer**

**WHERE Sex = 'Female' AND Prof1 = 'C' AND TIMESTAMPDIFF(YEAR, DOB, CURDATE()) > 24;**

**-- 32) Who are the programmers who will be celebrating their Birthday within a week?**

**SELECT Name**

**FROM Programmer**

**WHERE DAYOFYEAR(DATE\_ADD(DOB, INTERVAL YEAR(CURDATE()) - YEAR(DOB) YEAR)) - DAYOFYEAR(CURDATE()) BETWEEN 1 AND 7;**

**-- 33 Display the details of those with less than a year's experience?**

**SELECT \***

**FROM Programmer**

**WHERE TIMESTAMPDIFF(YEAR, DOB, CURDATE()) < 1;**

**-- 34 Display the details of those who will be completing 2 years of service this year?**

**SELECT \***

**FROM Programmer**

**WHERE TIMESTAMPDIFF(YEAR, DOJ, CURDATE()) = 2;**

**-- 35 Calculate the amount to be recovered for those packages whose development cost has not been**

**-- recovered?**

**SELECT SUM(DevelopmentCost - (Softwarecost \* Softwarecost)) AS AmountToBeRecovered**

**FROM Software**

**WHERE (Softwarecost \* Softwarecost) < DevelopmentCost;**

**-- 36) List the packages which have not been sold so far?**

**SELECT \* FROM Software**

**WHERE Softwarecost = 0;**

**-- 37) Find out the cost of the software developed by Mary?**

**SELECT SUM(Softwarecost) AS TotalCostDevelopedByMary**

**FROM Software**

**WHERE Name = 'Mary';**

**-- 38) Display the institute’s names from the studies table without duplicates?**

**SELECT DISTINCT Stu\_place**

**FROM Studies;**

**-- 39) How many different courses are mentioned in the studies table?**

**SELECT COUNT(DISTINCT Course) AS NumberOfCourses**

**FROM Studies;**

**-- 40) Display the names of the programmers whose names contain 2 occurrences of the letter A?**

**SELECT Name**

**FROM Programmer**

**WHERE LENGTH(Name) - LENGTH(REPLACE(Name, 'a', '')) = 2;**

**-- 41) Display the names of programmers whose names contain unto 5 characters?**

**SELECT Name**

**FROM Programmer**

**WHERE LENGTH(Name) <= 5;**

**-- 42) How many female programmers knowing COBOL have more than 2 years experience?**

**SELECT COUNT(\*) AS FemaleProgrammersWithExperience**

**FROM Programmer**

**WHERE Sex = 'Female' AND (Prof1 = 'COBOL' OR Prof2 = 'COBOL') AND TIMESTAMPDIFF(YEAR, DOB, CURDATE()) > 2;**

**-- 43) What is the length of the shortest name in the programmer table?**

**SELECT MIN(LENGTH(Name)) AS ShortestNameLength**

**FROM Programmer;**

**-- 44) What is the average development cost of a package developed in COBOL?**

**SELECT AVG(DevelopmentCost) AS AverageDevelopmentCostCOBOL**

**FROM Software**

**WHERE Lang\_Dev = 'COBOL';**

**-- 45) Display the name, sex, dob (DD/MM/YY format), doj for all the programmers without using**

**-- conversion function?**

**SELECT Name, Sex, DATE\_FORMAT(DOB, '%d/%m/%y') AS DOB, DATE\_FORMAT(DOJ, '%d/%m/%y') AS DOJ**

**FROM Programmer;**

**-- 46) Who are the programmers who were born on the last day of the month?**

**SELECT Name**

**FROM Programmer**

**WHERE DAY(LAST\_DAY(DOB)) = DAY(DOB);**

**-- 47) What is the amount paid in salaries of the male programmers who do not know Cobol?**

**SELECT SUM(Salary) AS TotalSalaryPaid**

**FROM Programmer**

**WHERE Sex = 'Male' AND NOT (Prof1 = 'Cobol' OR Prof2 = 'Cobol');**

**-- 48) Display the title, scost, dcost and difference between scost and dcost in descending order of**

**-- difference?**

**-- 49) Display the name, dob, doj of those month of birth and month of joining are same?**

**SELECT Name, DOB, DOJ**

**FROM Programmer**

**WHERE MONTH(DOB) = MONTH(DOJ);**

**-- 50) Display the names of the packages whose names contain more than 1 word?**

**SELECT Title**

**FROM Software**

**WHERE Title LIKE '% %';**

**Query-2**

**-- 1) Display THE NUMBER OF packages developed in EACH language.**

**SELECT Lang\_Dev, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**GROUP BY Lang\_Dev;**

**-- 2) Display THE NUMBER OF packages developed by EACH person.**

**SELECT Name, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**GROUP BY Name;**

**-- 3) Display THE NUMBER OF male and female programmer.**

**SELECT Sex, COUNT(\*) AS NumberOfProgrammers**

**FROM Programmer**

**GROUP BY Sex;**

**-- 4) Display THE COSTLIEST packages and HIGEST selling developed in EACH language.**

**SELECT Lang\_Dev, MAX(DevelopmentCost) AS CostliestPackage, MAX(No\_of\_SoftwareSold) AS HighestSelling**

**FROM Software**

**GROUP BY Lang\_Dev;**

**-- 5) Display THE NUMBER OF people BORN in EACH YEAR.**

**SELECT YEAR(DOB) AS BirthYear, COUNT(\*) AS NumberOfPeople**

**FROM Programmer**

**GROUP BY BirthYear;**

**-- 6) Display THE NUMBER OF people JOINED in EACH YEAR**

**SELECT YEAR(DOJ) AS JoiningYear, COUNT(\*) AS NumberOfPeople**

**FROM Programmer**

**GROUP BY JoiningYear;**

**-- 7) Display THE NUMBER OF people BORN in EACH MONTH.**

**SELECT MONTH(DOB) AS BirthMonth, COUNT(\*) AS NumberOfPeople**

**FROM Programmer**

**GROUP BY BirthMonth;**

**-- 8) Display THE NUMBER OF people JOINED in EACH MONTH.**

**SELECT MONTH(DOJ) AS JoiningMonth, COUNT(\*) AS NumberOfPeople**

**FROM Programmer**

**GROUP BY JoiningMonth;**

**-- 9) Display the language wise COUNTS of prof1.**

**SELECT Prof1 AS Language, COUNT(\*) AS CountOfProf1**

**FROM Programmer**

**GROUP BY Prof1;**

**-- 10) Display the language wise COUNTS of prof2**

**SELECT Prof2 AS Language, COUNT(\*) AS CountOfProf2**

**FROM Programmer**

**GROUP BY Prof2;**

**-- 11) Display THE NUMBER OF people in EACH salary group.**

**SELECT Lang\_Dev, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**GROUP BY Lang\_Dev;**

**-- 12) Display THE NUMBER OF people who studied in EACH institute.**

**SELECT Stu\_place AS Institute, COUNT(\*) AS NumberOfPeople**

**FROM Studies**

**GROUP BY Institute;**

**-- 13) Display THE NUMBER OF people who studied in EACH course.**

**SELECT Course, COUNT(\*) AS NumberOfPeople**

**FROM Studies**

**GROUP BY Course;**

**-- 14) Display the TOTAL development COST of the packages developed in EACH language.**

**SELECT Lang\_Dev AS Language, SUM(DevelopmentCost) AS TotalDevelopmentCost**

**FROM Software**

**GROUP BY Language;**

**-- 15) Display the selling cost of the package developed in EACH language.**

**SELECT Lang\_Dev AS Language, SUM(Softwarecost) AS TotalSellingCost**

**FROM Software**

**GROUP BY Language;**

**-- 16) Display the cost of the package developed by EACH programmer.**

**SELECT Name, SUM(DevelopmentCost) AS TotalDevelopmentCost**

**FROM Software**

**GROUP BY Name;**

**-- 17) Display the sales values of the package developed inEACH programmer.**

**SELECT Name, SUM(No\_of\_SoftwareSold \* Softwarecost) AS TotalSalesValue**

**FROM Software**

**GROUP BY Name;**

**-- 18) Display the NUMBER of packages developed by EACH programmer.**

**SELECT Name, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**GROUP BY Name;**

**-- 19) Display the sales COST of packages developed by EACH programmer language wise.**

**SELECT Name, Lang\_Dev AS Language, SUM(No\_of\_SoftwareSold \* Softwarecost) AS TotalSalesValue**

**FROM Software**

**GROUP BY Name, Language;**

**-- 20) Display EACH programmers name, costliest package and cheapest packages developed by**

**-- Him/Her.**

**SELECT Name,**

**MAX(DevelopmentCost) AS CostliestPackage,**

**MIN(DevelopmentCost) AS CheapestPackage**

**FROM Software**

**GROUP BY Name;**

**-- 21) Display EACH language name with AVERAGE development cost, AVERAGE cost, selling cost**

**-- and AVERAGE price per copy.**

**SELECT**

**Lang\_Dev AS Language,**

**AVG(DevelopmentCost) AS AvgDevelopmentCost,**

**AVG(Softwarecost) AS AvgCost,**

**AVG(Softwarecost / No\_of\_SoftwareSold) AS AvgPricePerCopy**

**FROM Software**

**GROUP BY Language;**

**-- 22) Display EACH institute name with NUMBER of courses, AVERAGE cost per course.**

**SELECT**

**Stu\_place AS Institute,**

**COUNT(Course) AS NumberOfCourses,**

**AVG(Course\_cost) AS AvgCostPerCourse**

**FROM Studies**

**GROUP BY Institute;**

**-- 23) Display EACH institute name with NUMBER of students.**

**SELECT**

**Stu\_place AS Institute,**

**COUNT(Name) AS NumberOfStudents**

**FROM Studies**

**GROUP BY Institute;**

**-- 24) Display names of male and female programmers.**

**SELECT DISTINCT Name, Sex**

**FROM Programmer;**

**-- 25) Display the programmer's name and their packages.**

**SELECT p.Name, s.Title**

**FROM Programmer p**

**LEFT JOIN Software s ON p.Name = s.Name;**

**-- 26) Display the NUMBER of packages in EACH language.**

**SELECT Lang\_Dev AS Language, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**GROUP BY Language;**

**-- 27) Display the NUMBER of packages in EACH language for which development cost is less than**

**-- 1000.**

**SELECT Lang\_Dev AS Language, COUNT(\*) AS NumberOfPackages**

**FROM Software**

**WHERE DevelopmentCost < 1000**

**GROUP BY Language;**

**-- 28) Display the AVERAGE difference BETWEEN scost and dcost for EACH language.**

**SELECT Lang\_Dev AS Language, AVG(Softwarecost - DevelopmentCost) AS AvgDifference**

**FROM Software**

**GROUP BY Language;**

**-- 29) Display the TOTAL scost, dcsot and amount TOBE recovered for EACH programmer for**

**-- whose dcost HAS NOT YET BEEN recovered.**

**SELECT**

**Name,**

**SUM(Softwarecost) AS TotalSalesCost,**

**SUM(DevelopmentCost) AS TotalDevelopmentCost,**

**SUM(Softwarecost - DevelopmentCost) AS AmountToBeRecovered**

**FROM Software**

**GROUP BY Name**

**HAVING SUM(Softwarecost) > SUM(DevelopmentCost);**

**-- 30) Display highest, lowest and average salaries for THOSE earning MORE than 2000.**

**SELECT**

**MAX(Salary) AS HighestSalary,**

**MIN(Salary) AS LowestSalary,**

**AVG(Salary) AS AverageSalary**

**FROM Programmer**

**WHERE Salary > 2000;**

**Query -3**

**-- 1) Who is the highest paid C programmer?**

**select Name, Salary from programmer where prof1='C'or Prof2='C' order by Salary desc**

**limit 1;**

**-- 2) Who is the highest paid female cobol programmer?**

**select Name, Salary from programmer where prof1='cobol'and Sex='Female' order by Salary desc**

**limit 1;**

**-- 3) Display the name of the HIGEST paid programmer for EACH language (prof1)**

**SELECT P.Name, P.Prof1, P.Salary FROM Programmer P**

**JOIN (SELECT Prof1, MAX(Salary) AS MaxSalary FROM Programmer GROUP BY Prof1**

**) AS MaxSalaries ON P.Prof1 = MaxSalaries.Prof1 AND P.Salary = MaxSalaries.MaxSalary;**

**-- 4) Who is the LEAST experienced programmer?**

**select Name, TIMESTAMPDIFF(YEAR, DOB, CURDATE()) as Experience from Programmer**

**order by Experience limit 1;**

**-- 5) Who is the MOST experienced programmer?**

**select Name, TIMESTAMPDIFF(YEAR, DOB, CURDATE()) as Experience from Programmer**

**order by Experience desc limit 1;**

**-- 6) Which language is known by ONLY ONE programmer?**

**select Name, Prof1 as Language from Programmer group by Name, Prof1 having count(\*) = 1**

**union**

**select Name, Prof2 as Language from Programmer group by Name, Prof2 having count(\*) = 1;**

**-- 7) Who is the YONGEST programmer knowing DBASE?**

**select Name, TIMESTAMPDIFF(YEAR, DOB, CURDATE()) as Experience from Programmer**

**where Prof1='Dbase' or Prof2='Dbase'order by Experience limit 1;**

**-- 8) Which institute has MOST NUMBER of students?**

**select Stu\_place as Institute, count(\*) as StudentCount from Studies**

**group by Stu\_place order by StudentCount desc limit 1;**

**-- 9) Who is the above programmer?**

**-- 10) Which female programmer earns MORE than 3000/- but DOES NOT know C, C++, Oracle or**

**-- Dbase?**

**SELECT Name FROM programmer**

**WHERE Sex = 'female' AND Salary > 3000**

**AND (Prof1 NOT IN ('C', 'C++', 'Oracle', 'Dbase')**

**OR Prof2 NOT IN ('C', 'C++', 'Oracle', 'Dbase'));**

**-- 11) Which is the COSTLIEST course?**

**select Course,max(Course\_cost) Costiest\_course from Studies group by course order by Costiest\_course**

**desc limit 1;**

**-- 12) Which course has been done by MOST of the students?**

**select course, count(course) Course\_count from Studies group by course order by Course\_count**

**desc limit 1;**

**-- 13) Display name of the institute and course Which has below AVERAGE course fee?**

**select Stu\_place as institute, Course from Studies**

**where Course\_cost < (select avg(Course\_cost) from Studies);**

**-- 14) Which institute conducts COSTLIEST course?**

**SELECT DISTINCT Stu\_place FROM Studies WHERE Course IN (**

**SELECT Course FROM Studies GROUP BY Course**

**HAVING COUNT(\*) < (SELECT AVG(StudentCount) FROM (SELECT COUNT(\*) AS StudentCount FROM Studies GROUP BY Course) AS AvgStudentCount)**

**);**

**-- 15) Which course has below AVERAGE number of students?**

**SELECT Course**

**FROM Studies**

**GROUP BY Course**

**HAVING COUNT(\*) < (SELECT AVG(StudentCount) FROM**

**(SELECT COUNT(\*) AS StudentCount FROM Studies GROUP BY Course) AS AvgStudentCount);**

**-- 16) Which institute conducts the above course?**

**SELECT Course FROM Studies GROUP BY Course**

**HAVING COUNT(\*) < (SELECT AVG(StudentCount) FROM**

**(SELECT COUNT(\*) AS StudentCount FROM Studies GROUP BY Course) AS AvgStudentCount);**

**-- 17) Display names of the course WHOSE fees are within 1000(+ or -) of the AVERAGE fee.**

**select Course**

**from Studies**

**where abs(Course\_cost - (select avg(Course\_cost) from Studies)) <= 1000;**

**-- 18) Which package has the HIGEST development cost?**

**SELECT Title AS package**

**FROM Software**

**WHERE DevelopmentCost = (SELECT MAX(DevelopmentCost) FROM Software);**

**-- 19) Which package has the LOWEST selling cost?**

**SELECT Title AS package**

**FROM Software**

**WHERE DevelopmentCost = (SELECT MIN(DevelopmentCost) FROM Software);**

**-- 20) Who developed the package, which has sold the LEAST number of copies?**

**SELECT Name**

**FROM Programmer**

**WHERE Name IN (**

**SELECT Name FROM Software**

**WHERE SoftwareCost = (SELECT MIN(SoftwareCost) FROM Software));**

**-- 21) Which language was used to develop the package WHICH has the HIGEST sales amount?**

**SELECT Lang\_Dev**

**FROM Software**

**WHERE SoftwareCost = (SELECT MAX(SoftwareCost) FROM Software);**

**-- 22) How many copies of the package that has the LEAST DIFFRENCE between development and**

**-- selling cost were sold?**

**SELECT Softwarecost FROM Software**

**WHERE ABS(Softwarecost - DevelopmentCost) = (**

**SELECT MIN(ABS(Softwarecost - DevelopmentCost)) FROM Software);**

**-- 23) Which is the COSTLIEAST package developed in PASCAL?**

**select Title from Software where Lang\_Dev = 'Pascal'**

**order by SoftwareCost limit 1;**

**-- 24) Which language was used to develop the MOST NUMBER of package?**

**SELECT Lang\_Dev FROM Software GROUP BY Lang\_Dev**

**ORDER BY COUNT(\*) DESC LIMIT 1;**

**-- 25) Which programmer has developed the HIGEST NUMBER of package?**

**SELECT Name, COUNT(\*) AS NumberOfPackagesDeveloped**

**FROM Software GROUP BY Name**

**ORDER BY NumberOfPackagesDeveloped DESC LIMIT 1;**

**-- 26) Who is the author of the COSTLIEST package?**

**SELECT Name AS Author, Title AS Package, Softwarecost AS Cost**

**FROM Software ORDER BY Softwarecost DESC LIMIT 1;**

**-- 27) Display names of packages WHICH have been sold LESS THAN the AVERAGE number of**

**-- copies?**

**SELECT Title**

**FROM Software**

**WHERE SoftwareCost < (SELECT AVG(SoftwareCost) FROM Software);**

**-- 28) Who are the female programmers earning MORE than the HIGEST paid male programmers?**

**SELECT Name FROM Programmer WHERE Sex = 'Female'**

**AND Salary > (SELECT MAX(Salary) FROM Programmer WHERE Sex = 'Male');**

**-- 29) Which language has been stated as prof1 by MOST of the programmers?**

**SELECT Prof1 FROM Programmer GROUP BY Prof1**

**ORDER BY COUNT(\*) DESC LIMIT 1;**

**-- 30) Who are the authors of packages, WHICH have recovered MORE THAN double the**

**-- development cost?**

**SELECT Name FROM Software WHERE Softwarecost > (2 \* DevelopmentCost);**

**-- 31) Display programmer names and CHEAPEST package developed by them in EACH language?**

**-- 32) Who is the YOUNGEST male programmer born in 1965?**

**SELECT Name FROM Programmer WHERE Sex = 'Male'**

**AND DOB = (SELECT MIN(DOB) FROM Programmer WHERE Sex = 'Male' AND YEAR(DOB) = 1965);**

**-- 33) Display language used by EACH programmer to develop the HIGEST selling and LOWEST**

**-- selling package.**

**-- 34) Who is the OLDEST female programmer WHO joined in 1992**

**SELECT Name FROM Programmer WHERE Sex = 'Female'**

**AND DOJ = (SELECT MIN(DOJ) FROM Programmer WHERE Sex = 'Female' AND YEAR(DOJ) = 1992);**

**-- 35) In WHICH year where the MOST NUMBER of programmer born?**

**SELECT YEAR(DOB) AS BirthYear, COUNT(\*) AS ProgrammerCount FROM Programmer**

**GROUP BY YEAR(DOB) ORDER BY ProgrammerCount DESC LIMIT 1;**

**-- 36) In WHICH month did MOST NUMBRER of programmer join?**

**SELECT YEAR(DOJ) AS JoinYear, COUNT(\*) AS ProgrammerCount FROM Programmer**

**GROUP BY YEAR(DOJ) ORDER BY ProgrammerCount DESC LIMIT 1;**

**-- 37) In WHICH language are MOST of the programmer's proficient?**

**SELECT Prof1 AS Language, COUNT(\*) AS ProgrammerCount FROM Programmer GROUP BY Prof1**

**ORDER BY ProgrammerCount DESC LIMIT 1;**

**-- 38) Who are the male programmers earning BELOW the AVERAGE salary of female**

**-- programmers?**

**SELECT Name FROM Programmer WHERE Sex = 'Male'**

**AND Salary < (SELECT AVG(Salary) FROM Programmer WHERE Sex = 'Female');**

**Query -4**

-- 1) Display the details of THOSE WHO are drawing the same salary.

SELECT \* FROM Programmer

WHERE Salary IN (SELECT Salary FROM Programmer GROUP BY Salary HAVING COUNT(\*) > 1);

-- 2) Display the details of software developed by male programmers earning MORE than 3000.

SELECT \* FROM Software

WHERE Name IN (SELECT Name FROM Programmer WHERE Sex = 'Male' AND Salary > 3000);

-- 3) Display details of packages developed in PASCAL by female programmers.

SELECT \* FROM Software

WHERE Lang\_Dev = 'PASCAL' AND Name IN (SELECT Name FROM Programmer WHERE Sex = 'Female');

-- 4) Display the details of the programmer WHO joined BEFORE 1990.

SELECT \* FROM Software

WHERE Lang\_Dev = 'PASCAL' AND Name IN (SELECT Name FROM Programmer WHERE Sex = 'Female');

-- 5) Display details of software developed in C by female programmers of PRAGATHI.

SELECT S.\*

FROM Software S

JOIN Programmer P ON S.Name = P.Name

WHERE S.Lang\_Dev = 'C'

AND P.Sex = 'Female'

AND P.Name IN (SELECT Name FROM Studies WHERE Stu\_place = 'PRAGATHI');

-- 6) Display NUMBER of packages NUMBER of copies sold and sales value of EACH programmer

-- Institute-wise.

SELECT P.Name AS Programmer, St.Stu\_place AS Institute,

COUNT(S.Name) AS NumberOfPackages,

SUM(S.No\_of\_SoftwareSold) AS TotalCopiesSold,

SUM(S.Softwarecost \* S.No\_of\_SoftwareSold) AS SalesValue

FROM Programmer P

JOIN Software S ON P.Name = S.Name

JOIN Studies St ON P.Name = St.Name

GROUP BY P.Name, St.Stu\_place;

SELECT S.\*

FROM Software S

JOIN Programmer P ON S.Name = P.Name

JOIN Studies St ON P.Name = St.Name

WHERE P.Sex = 'Male'

AND St.Stu\_place = (

SELECT Stu\_place

FROM Studies

GROUP BY Stu\_place

ORDER BY COUNT(\*) DESC

LIMIT 1

)

AND S.Lang\_Dev = 'DBASE';

-- 7) Display details of software developed in DBASE by male programmers WHO belong to the

-- institute on which MOST NUMBER OF programmer’s studies.

SELECT s.\*

FROM Software s

JOIN Programmer p ON s.Name = p.Name

JOIN Studies st ON p.Name = st.Name

WHERE p.Sex = 'Male'

AND st.Stu\_place = (

SELECT Stu\_place

FROM Studies

GROUP BY Stu\_place

ORDER BY COUNT(\*) DESC

LIMIT 1

)

AND s.Lang\_Dev = 'DBASE';

-- 8) Display the details of the software that was developed by male programmers born BEFORE

-- 1965 and female programmers born AFTER 1975.

SELECT s.\*

FROM Software s

JOIN Programmer p ON s.Name = p.Name

JOIN Studies st ON p.Name = st.Name

WHERE (p.Sex = 'Male' AND p.DOB < '1965-01-01')

OR (p.Sex = 'Female' AND p.DOB > '1975-12-31');

-- 9) Display the details of the software that was developed in the language that is NOT the

-- programmer’s first proficiency.

SELECT s.\*

FROM Software s

JOIN Programmer p ON s.Name = p.Name

WHERE s.Lang\_Dev NOT IN (p.Prof1, p.Prof2);

-- 10) Display details of software that was developed in the language which is NEITHER first NOR

-- second proficiency of the programmer.

SELECT s.\*

FROM Software s JOIN Programmer p ON s.Name = p.Name

WHERE s.Lang\_Dev NOT IN (p.Prof1, p.Prof2)

AND s.Lang\_Dev NOT IN (p.Prof2, p.Prof1);

-- 11) Display details of software developed by male students of SABHARI.

SELECT s.\*

FROM Software s

JOIN Studies st ON s.Name = st.Name

WHERE st.Stu\_place = 'Sabhari'

AND st.Name IN (SELECT Name FROM Programmer WHERE Sex = 'Male');

-- 12) Display the names of programmers WHO HAVE NOT developed any package.

SELECT Name

FROM Programmer

WHERE Name NOT IN (SELECT DISTINCT Name FROM Software);

-- 13) What is the total cost of the software developed by the programmers by APPLE?

SELECT SUM(Softwarecost) AS TotalCost

FROM Software

WHERE Name IN (SELECT Name FROM Programmer WHERE Prof1 = 'APPLE' OR Prof2 = 'APPLE');

-- 14) Who are the programmers WHO JOINED in the same day?

SELECT A.Name, B.Name

FROM Programmer A

JOIN Programmer B ON A.Name != B.Name AND A.DOJ = B.DOJ;

-- 15) Who are the programmers WHO HAVE THE SAME PROF2?

SELECT Prof2

FROM Programmer

GROUP BY Prof2

HAVING COUNT(\*) > 1;

-- 16) Display the total sales values of software, institutes-wise.

SELECT T.Stu\_place AS Institute, SUM(S.Softwarecost \* S.No\_of\_SoftwareSold) AS TotalSalesValue

FROM Software S

JOIN Studies T ON S.Name = T.Name

GROUP BY T.Stu\_place;

-- 17) In which institutes did the person who developed the COSTLIEST package study?

SELECT Stu\_place

FROM Studies

WHERE Name = (

SELECT Name

FROM Software

WHERE Softwarecost = (SELECT MAX(Softwarecost) FROM Software)

);

-- 18) Which language listed in prof1 and prof2 HAS NOT BEEN used to develop any package?

SELECT Prof1 AS Language

FROM Programmer

LEFT JOIN Software ON Programmer.Name = Software.Name

WHERE Prof1 NOT IN (SELECT DISTINCT Lang\_Dev FROM Software)

UNION

SELECT Prof2 AS Language

FROM Programmer

LEFT JOIN Software ON Programmer.Name = Software.Name

WHERE Prof2 NOT IN (SELECT DISTINCT Lang\_Dev FROM Software);

-- 19) How much does the person WHO developed the HIGHEST selling package earn and WHAT

-- course did he/she undergo?

SELECT P.Name, P.Salary, S.Course

FROM Programmer P

JOIN Studies S ON P.Name = S.Name

WHERE P.Name = (

SELECT Name

FROM Software

WHERE No\_of\_SoftwareSold = (SELECT MAX(No\_of\_SoftwareSold) FROM Software)

);

-- 20) How many months will it take for each programmer to recover the cost of the course

-- underwent?

SELECT Programmer.Name, Course\_cost / (Salary / 12) AS MonthsToRecover

FROM Programmer

JOIN Studies ON Programmer.Name = Studies.Name;

-- 21) Which is the COSTLIEST package developed by a person with under 3 year’s expenences?

SELECT Title AS CostliestPackage FROM Software

WHERE DevelopmentCost = (SELECT MAX(DevelopmentCost) FROM Software

WHERE Name IN (SELECT Name FROM Programmer

WHERE TIMESTAMPDIFF(YEAR, DOB, CURDATE()) < 3));

-- 22) What is the AVERAGE salary for those WHOSE software's sales value is more than 50,000?

SELECT AVG(Salary) AS AverageSalary FROM Programmer

WHERE Name IN (SELECT Name FROM Software

WHERE Softwarecost \* No\_of\_SoftwareSold > 50000);

-- 23) How many packages were developed by the students WHO studied in the institute that Charge

-- the LOWEST course fee?

SELECT COUNT(\*) AS NumberOfPackages FROM Software

WHERE Name IN (SELECT Name FROM Studies WHERE Stu\_place = (

SELECT Stu\_place FROM Studies ORDER BY Course\_cost ASC LIMIT 1));

-- 24) How many packages were developed by the person WHO developed the CHEAPEST package?

-- Where did he\she study?

SELECT COUNT(\*) AS NumberOfPackages FROM Software

WHERE Name IN (

SELECT Name

FROM Studies

WHERE Stu\_place = (SELECT Stu\_place FROM Studies ORDER BY Course\_cost ASC

LIMIT 1));

-- 25) How many packages were developed by female programmers earning MORE than the

-- HIGHEST paid male programmer?

SELECT COUNT(\*) AS NumberOfPackages

FROM Software

WHERE Name IN ( SELECT Name FROM Programmer WHERE Sex = 'Female' AND Salary > (

SELECT MAX(Salary) FROM Programmer WHERE Sex = 'Male'));

-- 26) How many packages were developed by the MOST experienced programmers from BDPS?

SELECT COUNT(\*) AS NumberOfPackages

FROM Software

WHERE Name IN ( SELECT Name FROM Programmer WHERE DOJ = (

SELECT MAX(DOJ) FROM Programmer WHERE Name IN (SELECT Name FROM Studies WHERE Stu\_place = 'BDPS' )));

-- 27) List the programmers (from software table) and institutes they studied, including those WHO

-- DIDN'T develop any package.

SELECT P.Name, S.Stu\_place

FROM Programmer P

LEFT JOIN Studies S ON P.Name = S.Name;

-- 28) List each profit with the number of programmers having that prof1 and the number of packages

-- developed in that prof1.

SELECT Prof1 AS Proficiency, COUNT(\*) AS NumberOfProgrammers,

(SELECT COUNT(\*) FROM Software WHERE Lang\_Dev = Prof1) AS NumberOfPackages

FROM Programmer

GROUP BY Prof1;

-- 29) List programmer names (from programmer table) and number of packages EACH developed.

SELECT Name,

(SELECT COUNT(\*) FROM Software WHERE Name = Programmer.Name) AS NumberOfPackages

FROM Programmer;

-- 30) List all the details of programmers who have done a course at S.S.I.L.

SELECT \* FROM Programmer

WHERE Name IN (

SELECT Name FROM Studies WHERE Stu\_place = 'S.S.I.L');