**List of Programs for Practical file**

**Subject: Computer Science (083)**

**Batch : 2020-21**

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| **1** | Write a program to find and display the sum of all the digits of a number entered by the user.  For example if number entered by user is 3456 then program should be able to produce the result as 15(i.e. 3+4+5+6 = 18) |
| **2** | Write a program using user defined function Sum\_List() to find the sum of all the items of list passes as argument to a function. |
| **3** | WAP with user defined function Binary\_Search() to search a element entered by the user in the List using Binary Search technique. |
| **4** | Write a function that receives two strings as arguments and check whether they are of same length or not. |
| **5** | Define a function that receive two numbers and generates a random number from that range. Using this function main program should be able to print three numbers randomly. |
| **6** | Write a program that allow the user to enter the eid, ename, age, deptt of n employees and write the detail of these employees in the text file “emp.text”. |
| **7** | Write a program to add two more records i.e. deatil of two more employees in the file “emp.text” created in the program no. 5 and then display the contents of the file. |
| **8** | Write a program using user defined function count\_line() that count the number of lines starting with letter ‘A’ or ‘T’ from the file “data.text” and display it on the screen. |
| **9** | Write a program using user defined function count\_word() to count the words "are" and "the" in the file  “stud.text”. |
| **10** | Write a program using user defined function read\_line() that read the content from the file “story.txt” line by line and display the same on the screen. |
| **11** | Write a program using user defined function count\_vowel() to count the number of vowels in the  file “data.txt” . |
| **13** | WAP to write multiple records of students(rno, name, subject, marks) in form lists in a file "dps.dat" and then display all data on the screen. |
| **14** | WAP using user defined function CopyBinary() that will copy the data from the binary file "source.dat" to "target.dat" . |
| **15** | WAP to diaply the detail of the emplyee from the file "emp.dat" as per the eid entered by the user. Consider the binary file “emp.dat” that contains the information of employees like (eid, ename, salary) in form of list. |
| **16** | Consider a binary file”flight.dat” that store the information of flights like (fno, source, destination) in form of list . WAP to display information of those flights whose starting point is Delhi from the binary file "flight.dat". |
| **17** | Consider the binary file “emp.dat” that contains the information of employees like (eid, ename, salary) in form of list. Write a program to increase the salary of those employees by 2000 whose salary is less than 25000 from the binary file “emp.dat”. |
| **18** | WAP to store the subject code and subject name of five subjects in form of dictionary in the file "sub.dat" andthenmodify the subject name as “Mathematics” of subject code 41 in the binary file “stud.dat”. |
| **20** | WAP to create a csv file “student.csv” to store data (rollno, name, marks). Obtain the detail of five students from the user and write it in the file “student.csv” |
| **21** | Write a function in python, Addnew(Book) and Remove(Book) to add a new book name and delete a  Book name from a List of books, considering them to act as push and pop operations of the Stack  data structure. |
| **22** | Write a programs using user defined functions in Python PUSH(stk) and POP(stk) to insert and delete element from the stack where stk is a stack implemented by a list of numbers. The function POP() returns the value deleted from the stack. Also display a message if stack is empty. |
| **23** | Write a function in python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description i.e. (title of package), considering them to act as  push and pop operations of the Stack data structure. |
| **24** | Consider the following tables **STORE** and **SUPPLIERS** and answer part (i) and (ii) of this question:  **Table : STORE**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Item No** | | **Item** | | **Scode** | | **Qty** | | **Rate** |  | **LastBuy** | | 2005 | | Sharpener Classic | | 23 | | 60 | | 8 |  | 31-Jun-09 | | 2003 | | Ball Pen 0.25 | | 22 | | 50 | | 25 |  | 01-Feb-10 | | 2002 | | Gel Pen Premium | | 21 | | 150 | | 12 |  | 24-Feb-10 | | 2006 | | Gel Pen Classic | | 21 | | 250 | | 20 |  | 11-Mar-09 | | 2001 | | Eraser Small | | 22 | | 220 | | 6 |  | 19-Jan-09 | | 2004 | | Eraser Big | | 22 | | 110 | | 8 |  | 02-Dec-09 | | 2009 | | Ball Pen 0.5 | | 21 | | 180 | | 18 |  | 03-Nov-09 | |  | | **Table : SUPPLIERS** | | | | | **Scode** | |  | | **Sname** | | | 21 | |  | | Premium Stationary | | | 22 | |  | | Tetra Supply | | | 23 | |  | | Soft Plastics | |      1. **Write SQL commands for the following statements :** 2. To display detail of all the items in the store table in ascending order of Lastbuy. 3. To display Item No and Item name of those items from store table whose rate is more than 15 rupees. 4. To display the details of those items whose Supplier code(Scode) is 22 or Quantity in store (Qty) is more than 110 from store table. 5. To display minimum rate of items for each supplier individually as per Scode from table store. 6. **Give the output of the following SQL queries:** 7. SELECT COUNT(DISTINCT Scode) FROM STORE; 8. SELECT Rate\*Qty FROM STORE WHERE ItemNo = 2004; 9. SELECT Item , Sname FROM STORE S, SUPPLIER P WHERE S.Scode = P.Scode AND ItemNo = 2006; 10. SELECT MAX(LastBuy) FROM STORE; |
| **25** | Consider the following tables **Student** and answer (a) and (b) parts of this question :  **Table : Student**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Rollno** | **Name** | **Age** | **Gender** | **Department** | **Fee** | | 101 | Ankit | 20 | M | Computer | 700 | | 102 | Payal | 23 | F | Hindi | 400 | | 103 | Mohit | 27 | M | Maths | 900 | | 104 | Priyanka | 19 | F | Computer | 700 | | 105 | Anjali | 25 | F | English | 600 | | 106 | Sanket | 29 | M | Hindi | 400 | | 107 | Rahul | 31 | M | Computer | 700 | | 108 | Rashmi | 22 | F | Maths | 900 | |
|  | **(a). Write SQL commands for the following statements :**   1. To display all the information about the students of Computer Department. 2. To display the name of male students only who are in Maths Department. 3. To increase the fee of all the students of computer department by 100 4. To display the average fee of student. 5. To delete the record of a student whose rollno is 107 |
|  | **(b). Give the output of the following SQL queries:**   1. select count(\*) from student where age > 24 ; 2. select Max(fee) from student where gender = ‘M’ ; 3. select name , age , department from student where fee between 700 and 900 ; 4. select name , age , gender from student where department in(‘Computer’ , ‘Hindi’) ; |
| **26** | Consider the following tables CLUB and COACH Write SQL queries for part (i) and find output for SQl queries of part(ii) of this question :  **Table : CLUB**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **CoachID** | **CoachName** | **Age** | **Sports** | **DateofApp** | **Pay** | **Gender** | | 101 | KUKREJA | 35 | KARATE | 1996-03-27 | 1000 | M | | 102 | RAVINA | 34 | KARATE | 1998-01-20 | 1200 | F | | 103 | KARAN | 34 | SQUASH | 1998-02-19 | 2000 | M | | 104 | TARUN | 33 | BASKETBALL | 1998-01-01 | 1500 | M | | 105 | AMIT | 36 | SWIMMING | 1998-01-12 | 750 | M | | 106 | RAHUL | 36 | SWIMMING | 1998-02-24 | 800 | M | | 107 | DEEPAK | 39 | SQUASH | 1998-02-20 | 2200 | M | | 108 | MOHIT | 39 | KARATE | 1998-02-22 | 1100 | M | | 109 | SHALINI | 37 | SWINMMING | 1998-01-13 | 900 | F | | 110 | SEEMA | 41 | BASKETBALL | 1998-02-19 | 1700 | F | | 111 | ABHISHEK | 37 | FOOTBALL | 1996-02-15 | 1100 | M |   **Table : COACHES**   |  |  |  | | --- | --- | --- | | **SportsPerson** | **Gender** | **CoachID** | | AJAY | M | 101 | | SEEMA | F | 102 | | VINOD | M | 104 | | TANEJA | F | 103 |  1. **Write SQL commands for the following statements :** 2. To display all information about swimming coaches in the club. 3. To list the names of all coaches with their date of appointment(DateofApp) in descending order. 4. To display CoachName, Age, Gender and Bonus(15% of pay) for all the coaches. 5. To display the CoachName, SportsPerson from table CLUB and COACHES with their CoachID   **(ii) Give the output of the following SQL queries:**   1. SELECT COUNT(DISTINCT SPORTS) FROM CLUB; 2. SELECT MIN(AGE) FROM CLUB WHERE GENDER=’F’; 3. SELECT CoachID, CoachName FROM CLUB WHERE PAY BETWEEN 1000 AND 1500; 4. SELECT CoachName, Age, Sports, SportsPerson, Pay FROM CLUB, COACHES WHERE CLUB.CoachID = COACHES.CoachID AND Pay>1000; |
| **27** | Database Connectivity Program-1 |
| **28** | Database Connectivity Program-2 |
| **29** | Database Connectivity Program-3 |
| **30** | Database Connectivity Program-4 |