



Delhi Public School Bangalore East

Subject: Computer Science (083)

Practical List- Python for Grade XI(2020-21)

1. Write a program to compute simple interest and compound interest given principle, rate and time period.
2. Write a program to convert temperature in Celsius to Fahrenheit & vice versa.
3. Write a program to find the largest of three numbers.
4. Write a program to find whether the year is a leap year or not.
5. Write a program to find the area of a triangle using Heron's formula.
6. Write a program to find the factorial of a number.
7. Write a program to generate 6 random numbers between 100 and 999 and then print their mean, median and mode.
8. Write a program to find the roots of the quadratic equation.
9. Write a program to find if a given number is prime or not.
10. Write a program to perform all the mathematical operations on a set of values.
11. Write a program to generate the Fibonacci series till first 'n' numbers..
12. Write a program to find a reverse of the four-digit number.
13. Write a program to check if the given string is a palindrome or not.
14. Write a program to input 3 sides of a triangle and prints whether it is an equilateral, isosceles or scale triangle.
15. Write a program to show if the entered character is uppercase or lowercase.
16. Write a program to check whether a number is an Armstrong number.
17. Write a menu driven program to find the area of circle, square, rectangle & triangle.
18. Write a program that reads a number of seconds and prints it in form: min and seconds.
Eg 200 mins are printed as 3 mins 20 seconds.
19. Write a program to input a string and a character and count the number of occurrences of the input character in a given string.
20. Write a program to count number of vowels in a given sentence.
21. Write a program to read two strings and perform concatenation and comparison operations on it.
22. Write a program to print first n odd numbers in descending order.
23. Write a program that should prompt the user to type some sentences. It should then print number of words, number of characters, number of digits and number of special

characters in it.

24. Write a program to find the sum of the given series.

a. $1+2+3+\dots+n$

b. $1^2+2^2+3^2+\dots+n^2$

c. $x - x^2/2! + x^3/3! - x^4/4! + x^5/5! - x^6/6!$ (Input x)

d. $1 + x^2 + x^3 + x^4 + x^5 + \dots x^n$

25. Write a program to reverse a list of integers.

26. Ask the user to enter a list of strings. Create a new list that contains only those strings which start with a vowel.

27. Write a program that replaces all vowels in the with '*'.

28. Write a program to print the following shape:

a.

```
*  
* *  
* * *  
* * * *
```

b.

```
*  
* *  
* * *  
* *  
*
```

c.

```
5 4 3 2 1  
5 4 3 2  
5 4 3  
5 4  
5
```

29. Write a program to create a nested tuple to store marks of three subjects for five students. Compute the total marks and average obtained by each student.

30. Write a program to read a list of 'n' integers from the user. Create two new lists, one having all positive numbers and the other having all negative numbers. Print all three lists.

31. Given a tuple pairs = {(2,5),(4,2),(9,8),(12,10)} , count the number of pairs (a,b) such that both a and b are even.

32. Write a program to perform various list operations using menu driven operations.

a. Add element c. Delete element e. Display list

b. Modify element d. Add another list f. Exit

33. Write a program to accept age of employees & count the number of employees in the following age groups.

i. a. 26-35 b. 36-45 c. 46-55

34. Write a program to repeatedly ask user to enter a team name and how many games the team has won or lost.

c. Using dictionary, allow the user to enter team name and print out the team's win percentage.

d. Using it to create a list whose entries are the number of runs of each team.

- e. Using dictionary create a list of all teams having winning records.
35. Create a dictionary whose keys are month names and whose values are number of days in the corresponding months. Perform the following:
- Ask the user to enter a month name ,and use dictionary to tell how many days are in the month.
 - Print out all of the months with 31 days.
 - Print out all of the keys in alphabetical order.
36. Write a program to sort a list of integers using bubble sort.
37. Write a program to perform sorting on the given list of strings, on the basis of length of strings.

SQL :

1. Write SQL commands for the following on the basis of the relations Stationery and Consumer given below:

S_ID	StationeryName	Company	Price
DP01	Dot Pen	ABC	10
PL02	Pencil	XYZ	6
ER05	Eraser	XYZ	7
PL01	Pencil	CAM	5
GP02	Gel Pen	ABC	15

C-ID	ConsumerName	Address	S_ID
01	Good Learner	Delhi	PL01
06	Write Well	Mumbai	GP02
12	Topper	Delhi	DP01
15	Write & Draw	Delhi	PL02
16	Motivation	Bangalore	PL01

- 1.To display details of those Consumers whose Address is Delhi.
- 2.To display the details of Stationery whose Price is in the range of 8 to 15(both included).
- 3.To display the ConsumerName, Address from table Consumer and Company and Price from Table Stationery ,with their corresponding matching S_ID.
4. To increase the Price of all Stationery by 2.

- 2.Write SQL commands for the following on the basis of the tables given below:

Worker

Ecode	Name	Desig	PLevel	DOJ	DOB
11	RadheShyam	Supervisor	P001	13-Sept-2004	23-Aug-1981
12	ChanderNath	Operator	P003	22-Feb-2010	12-Jul-1987
13	Fizza	Operator	P003	14-Jun-2009	14-Oct-1983
15	AmmenAhmed	Mechanic	P002	21-Aug-2006	13-Mar-1984
18	Sanya	Clerk	P002	19-Dec-2005	09-Jun-1983

Paylevel

Plevel	Pay	Allowance
P001	26000	12000
P002	22000	10000
P003	12000	6000

- 1.To display the details of all workers in descending order of DOB.
- 2.To display Name and Desig of those workers whose PLevel is either P001 or P002.
- 3.To display the content of all the worker table whose DOB is in between 19-Jan-1984 and 18-Jan-1987.
- 4.To display the Name and Allowance of all employees whose PLevel is P003.

- 3.Given the following Lab table, write SQL commands for the following statements..

No	ItemName	CostPerItem	Quantity	DateOfPurchase	Warranty	Operational
1.	Computer	60000	9	21/5/96	2	7
2.	Printer	15000	3	21/5/97	4	2
3.	Scanner	18000	1	29/8/98	3	1
4.	Camera	21000	2	13/10/96	1	1
5.	Switch	8000	1	31/10/99	2	1
6.	UPS	5000	5	21/5/96	1	4
7.	Plotter	25000	2	11/1/2000	2	5

- 1.To select the ItemName purchased before 31/10/97.
- 2.To display all the ItemName whose name starts with "S".
- 3.To list the ItemName in ascending order of the date of purchase where quantity is more than 3.

4.To count the number of items whose cost is more than 10000.

4. Write the SQL commands for the following on the basis of Voter relation given below:

Vno	Vname	Age	Address	Phone
1	Diwaker	22	Rohini	7045249
2	Rajiv	23	Sarojini Nagar	5567892
3	Smith	24	PaschimVihar	5580438
4	Arpit	19	Multan Nagar	5585643
5	Sunny	26	Dev Nagar	7123462
6	Sumit	23	VikasPuri	5565127
7	Rajiv	27	Rohini	7057845
8	Rohit	24	Rohini	7057845
9	Anand	34	Pitam Pura	7026534
10	Vidhi	26	Bank Vihar	7036713

1. List different voters with unique name.
2. To list all the employees who either reside in Rohini or whose age is less than 25.
3. Count the number of voters where address is 'Rohini'.
4. Delete the record of Diwaker from the Voter table.

5. Write the SQL commands for the following on the basis of HOSPITAL relation given below:

No	Name	Age	Department	Dateofadm	Charges	Sex
1	Sandeep	65	Surgery	23/02/98	300	M
2	Ravina	24	Orthopedic	20/01/98	200	F
3	Karan	45	Orthopedic	19/02/98	200	M
4	Tarun	12	Surgery	01/01/98	300	M
5	Zubin	36	ENT	12/01/98	250	M
6	Ketaki	16	ENT	24/02/98	300	F
7	Leena	29	Cardiology	20/02/98	800	F
8	Zareen	45	Gynecology	22/02/98	300	M
9	Kush	19	Cardiology	13/01/98	800	F
10	Shailya	31	Nuclear Medicine	19/02/98	400	M

- 1.To show all information about the patients of orthopaedic department.
- 2.To list the names of female patients who are in ENT and Cardiology department.
- 3.To list the names of all patients with the date of admission in ascending order.
- 4..To count the number of patients with age greater than 30.

6. Write the SQL commands for the following on the basis of SCHOOL BUS relation given below:

No	Name	Age	Department	Dateofadm	Charges	Sex
1	Sandeep	65	Surgery	23/02/98	300	M
2	Ravina	24	Orthopedic	20/01/98	200	F
3	Karan	45	Orthopedic	19/02/98	200	M
4	Tarun	12	Surgery	01/01/98	300	M
5	Zubin	36	ENT	12/01/98	250	M
6	Ketaki	16	ENT	24/02/98	300	F
7	Leena	29	Cardiology	20/02/98	800	F
8	Zareen	45	Gynecology	22/02/98	300	M
9	Kush	19	Cardiology	13/01/98	800	F
10	Shailya	31	Nuclear Medicine	19/02/98	400	M

- 1.To show all records of students more than the capacity in order of RtNo.
- 2.To show area covered for buses covering more than 20Km but charges less than 80000.
- 3.To show transporter wise total no of students traveling.

4.To show RtNo, area covered and average cost per student for all routes.
