ST. THOMAS SCHOOL,I NDIRAPURAM

LIST OF THE PRACTICALS FOR CLASS XII[083]

PROGRAMMING WITH PYTHON			
MONTH	S.NO	CHAPTER	PRACTICAL
			REVIEW OF PYTHON BASICS
	1		Write a program to accept a string (a sentence) and returns a string With first letter of each word as capital and other letters in lowercase **Eg. The string entered is :***The best way to predict the future is to create it* The output :- *The Best Way To Predict The Future Is To Create It*
	2		Write a program to enter a list .The program displays the frequencies of all the elements of a list.
	3		Write a Python program to input names of 'n' countries and their capital and store it in a dictionary. The program displays the menu 1. Country 2. Capital If the user selects 1-Program prompts for country and displays the corresponding capital If the user selects 2-Program prompts for capital and displays the corresponding country If Country and capital are not present, then displays the appropriate message
			FUNCTIONS
	4		Write a function that takes a number N as parameter and display all the prime number within the range 1 to N.
	5		Write a function that takes a string as argument .Extract all the digits from the string, if there are digits in string ,it calculates the sum of digits and if there are no digits ,it displays the appropriate message " No digits in string".
	6		Write a function deletechar() which takes two parameters –one is string and other is character . The function creates a new string after deleting all the occurrence of the character from the string and returns the string
			RECURSION
	7		Write a recursive function to find the factorial of a natural number.
	8		Write a recursive function to find HCF or GCD
	9		Write a recursive function to generate Fibonacci sequence up to N terms
	10		Write a recursive function to find the sum of digits of Number N

	11	Write a recursive function to implement binary search to search a number entered from user
	12	Write a recursive function to find the sum of all elements of a list
		USING PYTHON LIBRARIES
	13	Write a python program to calculate the area of regular polygon (import math module
	14	Write a python program to play the following game： The player guesses a number from 2 to 19 and then the program generates three random numbers from 101 to 199. If the sum of the digits of any of these numbers matches the player's number, then the player is declared a winner otherwise the player looses the game
	15	Write a python function sin(x,n) to calculate the value of sin(x) using its taylor series expansion up to n terr $$\sin(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \cdots,$$ **Use math module**

	16	Write a program to create a library/Package(listfx) in python and import it in a program.The package should have the following modules
		   1. Listreverse()Write a function that receives a list of integers as argument Write the python to display this list of numbers in reverse order. (without the reverse function)
		   2. Listsum()-Write a function that receives a list of integers as argument ,write the code to find their sum and average.
		   3. Listinterchange()-Write a function interchange first half of the list with second half and display the updated list
		In the main program import the package listfx and create a menu driven program to invoke the above functions

		FILE HANDLING

	17	Write a function readfile() to read a file passed as parameter to function. The function displays the content line by line with each word separated with '#'
		Eg.If the file have the following Content
		  India is my Country
		  I love Python
		  Python is fun
		Then ,the output displayed is
		  India #is #my#Country #
		  I# love # Python #
		  Python # is # fun #

	18	Write a function readfile() to read a file passed as parameter to function. The function displays number of consonants, vowels digits in it.
	19	Write a function copyfile() to read a file passed as parameter to function. The function also open two new files new file "lower.txt" and "upper.txt" and copies all the upper case characters in "upper.txt" and all lowercase in "lower.txt".

	20	Write a function readline() to read a file passed as parameter to function. The function displays the total number of lines starting from character 'P'
	21	Write a function readword() to read a file passed as parameter to function. The function displays the occurrence of the word 'and' and 'the' in a file

	22	Write a program to binary file "product.dat" to store the following information about product –prodno,name ,price and Qty .
		The program displays the following menu
		    1. Add product
		    2. Search product
		    3. Update the qty and price of product
		    4. Delete product
		    5. Display all products
		    6. Display the product with maximum quantity
		    7. Exit
		       Define the function for each menu option searching and updating the product can be based on prodno entered from user

	23	Write a menu driven program implementing user defined function to perform different functions on the CSV file "student.csv"
		    1. Write record in file
		    2. Display all the contents
		    3. Searching
		    4. Exit
		The CSV files store the following information-Roll name, name and percentage of students. Searching is based on the roll no entered from user.

DATA STRUCTURE IN PYTHON

	24	Write a menu driven program to search an integer in a list of integers using any of the following techniques.
		    (i) Linear Search
		    (ii) Binary Search
		Use bubble sort to sort the list for the binary Search

	25	Write a program to input integer data in two arrays. Sort one of the arrays in ascending order and the other in descending order. Then merge them into a third array so that the data in the third array is in ascending order. The program should then display the data from all the three arrays.
	26	Write a menu driven program which allows the user to perform the following operations on a stack (LIST implementation): 1) Push 2) Pop 3) Peek 4)Display 5)Exit
	27	Write a menu driven program which allows the user to perform the following operations on a queue (LIST implementation):

		1) Insert(Enqueue) 2) Delete(Dequeue) 3)Peek 4)Display 5)Exit