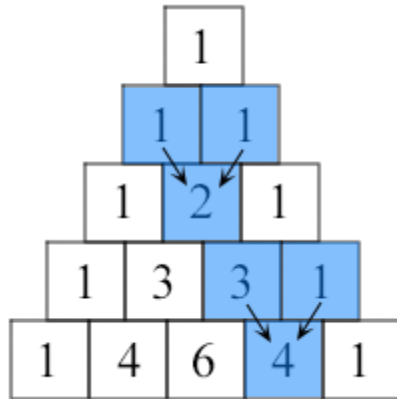

INTERNATIONAL INDIAN SCHOOL BURAIDAH
Worksheet(3) for the Academic Year 2024-25
CLASS: XII SUBJECT: Computer Science
LESSON 3-FUNCTIONS

1. Write a `_Python` function to find the maximum of three numbers.
2. Write a Python function to sum all the numbers in a list.
Sample List : (8, 2, 3, 0, 7)
Expected Output : 20
3. Write a `_Python` function to multiply all the numbers in a list.
Sample List : (8, 2, 3, -1, 7)
Expected Output : -336
4. Write a Python program to reverse a string.
Sample String : "1234abcd"
Expected Output : "dcba4321"
5. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
6. Write a Python function that accepts a string and counts the number of upper and lower case letters.
Sample String : 'The quick Brow Fox'
Expected Output :
No. of Upper case characters : 3
No. of Lower case Characters : 12
7. Write a `_Python` function that takes a list and returns a new list with distinct elements from the first list.
Sample List : [1,2,3,3,3,3,4,5]
Unique List : [1, 2, 3, 4, 5]
8. Write a Python function that takes a number as a parameter and checks whether the number is prime or not.
Note : A prime number (or a prime) is a natural number greater than 1 and that has no positive divisors other than 1 and itself.
9. Write a `_Python` program to print the even numbers from a given list.
Sample List : [1, 2, 3, 4, 5, 6, 7, 8, 9]
Expected Result : [2, 4, 6, 8]
10. Write a `_Python` function to check whether a number is "Perfect" or not.
Example : The first perfect number is 6, because 1, 2, and 3 are its proper positive divisors, and $1 + 2 + 3 = 6$. Equivalently, the number 6 is equal to half the sum of all its positive divisors: $(1 + 2 + 3 + 6) / 2 = 6$. The next perfect number is $28 = 1 + 2 + 4 + 7 + 14$. This is followed by the perfect numbers 496 and 8128.
11. Write a `_Python` function that checks whether a passed string is a palindrome or not.

12. Write a `_Python` function that prints out the first n rows of Pascal's triangle.

Sample Pascal's triangle :



13. Write a `_Python` function to create and print a list where the values are the squares of numbers between 1 and 30 (both included).

14. Write a Python Program containing a function `FindWord(String, SEARCH)`, that accepts two arguments : `String` and `SEARCH`, and prints the count of occurrence of `SEARCH` in `String`. Write appropriate statements to call the function. For example, if `String = "Learning history helps to know about history with interest in history"` and `SEARCH = 'history'`, the function should display The word history occurs 3 times.

15. Write a function in Python to read a text file, `Alpha.txt` and displays those lines which begin with the word 'You'.

16. Write a function, `vowelCount()` in Python that counts and displays the number of vowels in the text file named `Poem.txt`.

17. Write a function `ETCount()` in Python, which should read each character of a text file "TESTFILE.TXT" and then count and display the count of occurrence of alphabets E and T individually (including small cases e and t too).

Example: If the file content is as follows:

Today is a pleasant day.

It might rain today.

It is mentioned on weather sites

The `ETCount()` function should display the output as:

E or e: 6

T or t : 9

18. Write a function `INDEX_LIST(L)`, where `L` is the list of elements passed as argument to the function. The function returns another list named 'indexList' that stores the indices of all Non-Zero Elements of `L`.

For example: If `L` contains `[12,4,0,11,0,56]`

The index List will have - `[0,1,3,5]`

19. Write definition of a method/function `ADD_ODD_EVEN(VALUE)` to display sum of odd and even separately from the list of values.

Example:- if the list contains `[15,26,37,19,22,13]`

Output:- even sum-58
odd sum-65

20. Write definition of a method/function HowMany(ID,Val) to count and display number of times the value of val is present in the list ID.
Example:- if the ID contains [10,20,30,40,50] and Val is given 20
Output:- 20 is found 2 times
21. Write the definition of a method ZeroEnding(SCORES) to add all those values in the list of scores, which are ending with zero(0) and display the sum.
Example:- [200,456,300,100,234,678]
Output:- 600
22. Write a function LShift(Arr,n) in Python which accepts a list Arr of numbers and n is a numeric value which all elements of the lists are shifted to left.
Example:- Arr=[10,20,30,40,12,11],n=2
Output:- Arr=[30,40,12,11,10,20]
23. Write the definition of a function Sum3(L) in python, which accepts a list L of integers and displays the sum of all such integers from the list L which end with the digit 3.
Example: L=[123,10,13,15,23]
Output:- sum=159
24. Write a function search_replace() in Python which accepts a list L of numbers and a number to be searched. If the number exist, it is replaced by 0 and if the number does not exist an appropriate message is displayed.
Example:-
L=[10,20,30,10,40]
Num to be searched=10
Output:- L=[0,20,30,0,40]
25. Write a menu driven program to check whether a number input is a perfect number,Armstrong number,prime number or a palindrome number. The program should have functions to check each type.
26. Write a menu driven program in Python to implement a polygon area calculator. There should be separate function for each polygon. (square,rectangle,triangle and cylinder).

