SUNBEAM

Institute of Information Technology

1. Using for loop, write and run a Python program to find factorial from 0 to 10.(And Using recursion).

2. Print the given number in words.(eg.1234 => one two three four).

3. Accept the full name from user(Name Middlename Surname) in lowercase and Print it in title case. NOTE:(Using in-built function and User-defined function)

4. Write a program that asks the user how many days are in a particular month, and what day of the week the month begins on (0 for Monday, 1 for Tuesday, etc), and then prints a calendar for that month. For example, here is the output for a 30-day month that begins on day 4 (Thursday):

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

5. Define a procedure histogram() that takes a list of integers and prints a histogram to the screen. For example, histogram([4, 9, 7]) should print the following:

****
****
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6. Write a version of a palindrome recognizer that also accepts phrase palindromes such as "Go hanga salami I'm a lasagna hog.", "Was it a rat I saw?", "Step on no pets", "Sit on a potato pan, Otis", "Lisa Bonet ate no basil", "Satan, oscillate my metallic sonatas", "I roamed under it as a tired nude Maori","Rise to vote sir", or the exclamation "Dammit, I'm mad!". Note that punctuation, capitalization, and spacing are usually ignored.

7. A pangram is a sentence that contains all the letters of the English alphabet at least once, for example: The quick brown fox jumps over the lazy dog. Your task here is to write a function to check a sentence to see if it is a pangram or not.

8. In cryptography, a Caesar cipher is a very simple encryption techniques in which each letter in the plain text is replaced by a letter some fixed number of positions down the alphabet. For example, with a shift of 3, A would be replaced by D, B would become E, and so on. The method is named after Julius Caesar, who used it to communicate with his generals. ROT-13 ("rotate by 13 places") is a widely used example of a Caesar cipher where the shift is 13. In Python, the key for ROT-13 may be represented by means of the following dictionary:

key = {'a':'n', 'b':'o', 'c':'p', 'd':'q', 'e':'r', 'f':'s', 'g':'t', 'h':'u', 'i':'v', 'j':'w', 'k':'x', 'l':'y', 'm':'z', 'n':'a', 'o':'b','p':'c', 'q':'d', 'r':'e', 's':'f', 't':'g', 'u':'h', 'v':'i', 'w':'j', 'x':'k', 'y':'l', 'z':'m', 'A':'N', 'B':'O', 'C':'P', 'D':'Q', 'E':'R','F':'S', 'G':'T', 'H':'U', 'I':'V', 'J':'W', 'K':'X', 'L':'Y', 'M':'Z', 'N':'A','O':'B', 'P':'C', 'Q':'D', 'R':'E', 'S':'F', 'T':'G','U':'H', 'V':'I', 'W':'J', 'X':'K', 'Y':'L', 'Z':'M'}

Your task in this exercise is to implement an encoder/decoder of ROT-13. Once you're done, you will be able to read the following secret message:
Pnrfne pvcure? V zhpu cersre Pnrfne fnynq!
Note that since English has 26 characters, your ROT-13 program will be able to both encode and decode texts written in English.

9. Given a dictionary of students and their favourite colours:
people={'Arham':'Blue','Lisa':'Yellow',''Vinod:'Purple','Jenny':'Pink'}
A. Find out how many students are in the list
B. Change Lisa’s favourite colour
C. Remove 'Jenny' and her favourite colour
D. Sort and print students and their favourite colours alphabetically by name

10.Write a function translate() that will translate a text into "rövarspråket" (Swedish for "robber's language"). That is, double every consonant and place an occurrence of "o" in between. For example, translate("this is fun") should return the string "tothohisos isos fofunon".

11 Write a program that contains a function that has one parameter, n, representing an integer greater than 0. The function should return n! (n factorial). Then write a main function that calls this function with the values 1 through 20, one at a time, printing the returned results. This is what your output should look like:
1
2
6
24
120
720
5040
40320
362880
3628800

12. Write a function sum() to add 1 to 10 numbers recursively.

13. Define a function overlapping() that takes two lists and returns True if they have at least one member in common, False otherwise.

14. Write a function find_longest_word() that takes a list of words and returns the length of the longest word and that word itself.

15.Write a function filter_long_words() that takes a list of words and an integer len and returns the list of words that are longer than len.