Introduction to Python

Case Study -4(CS 04)

1. Write a program which will find factors of given number and find whether the factor is even or odd.

Hint: Use Loop with if-else statements

**Input:**

Number: 50

**Output:**

factor is odd: 1

Factor is even: 2

factor is odd: 5

Factor is even: 10

factor is odd: 25

Factor is even: 50

**Ans:**

num=50

for i in range(1,num+1):

rem=num%i

if(rem==0):

if(i%2==0):

print("Factor is even:",i)

else:

print("factor is odd: ",i)

else:

pass

1. Write a code which accepts a sequence of words as input and prints the words in a sequence after sorting them alphabetically.

Hint: In case of input data being supplied to the question, it should be assumed to be a console input.

**Input:**

"Welcome to Python"

**Output:**

The sorted words are:

Python

Welcome

to

Split () , Split into words

**Ans:**

my\_str = "Welcome to Python"

# breakdown the string into a list of words

words = my\_str.split()

# sort the list

words.sort()

# display the sorted words

print("The sorted words are:")

for word in words:

print(word)

1. Write a program, which will find all the numbers between 1000 and 3000 (both included) such that each digit of a number is an even number. The numbers obtained should be printed in a comma separated sequence on a single line.

Hint: In case of input data being supplied to the question, it should be assumed to be a console input. Divide each digit with 2 and verify is it even or not.

**Output:**

2000,2002,2004,2006,2008,2020,2022,2024,2026,2028,2040,2042,2044,2046,2048,2060,2062,2064,2066,2068,2080,2082,2084,2086,2088,2200,2202,2204,2206,2208,2220,2222,2224,2226,2228,2240,2242,2244,2246,2248,2260,2262,2264,2266,2268,2280,2282,2284,2286,2288,2400,2402,2404,2406,2408,2420,2422,2424,2426,2428,2440,2442,2444,2446,2448,2460,2462,2464,2466,2468,2480,2482,2484,2486,2488,2600,2602,2604,2606,2608,2620,2622,2624,2626,2628,2640,2642,2644,2646,2648,2660,2662,2664,2666,2668,2680,2682,2684,2686,2688,2800,2802,2804,2806,2808,2820,2822,2824,2826,2828,2840,2842,2844,2846,2848,2860,2862,2864,2866,2868,2880,2882,2884,2886,2888

**Ans:**

values = []

for i in range(1000,3001):

s = str(i)

if (int(s[0])%2==0) and (int(s[1])%2==0) and (int(s[2])%2==0) and (int(s[3])%2==0):

values.append(s)

print (",".join(values))

1. Write a program that accepts a sentence and calculate the number of letters and digits.

**Input:**

Suppose if the entered string is: Python0325

**Output:**

Then the output will be:

LETTERS: 6

DIGITS:4

Hint: Use built-in functions of string.- isdigit() and isalpha()

**Ans:**

s = "aac34520"

d={"DIGITS":0, "LETTERS":0}

for c in s:

if c.isdigit():

d["DIGITS"]+=1

elif c.isalpha():

d["LETTERS"]+=1

else:

pass

print("LETTERS", d["LETTERS"])

print("DIGITS", d["DIGITS"])

1. Design a code which will find the given number is Palindrome number or not.

Hint: Use built-in functions of string reversed() (Not case Sensitive)

The reversed() function returns a reversed iterator object.

Example

alph = ["a", "b", "c", "d"]  
ralph = reversed(alph)  
for x in ralph:  
  print(x)

**Input:**

my\_str = 'aIbohPhoBiA'

**Output:**

**Ans:**

It is palindrome

# change this value for a different output

my\_str = 'aIbohPhoBiA'

# make it suitable for caseless comparison

my\_str = my\_str.casefold()

# reverse the string

rev\_str = reversed(my\_str)

# check if the string is equal to its reverse

if list(my\_str) == list(rev\_str):

print("It is palindrome")

else:

print("It is not palindrome")

**Option 2**

my\_str = 'aIbohPhoBiA'

my\_str = my\_str.casefold() # make it suitable for caseless comparison

if my\_str == my\_str[::-1]:

print("It is palindrome")

else:

print("It is not palindrome")