#Qn 1a)

first, last = eval(input(*"Enter 2 numbers"*))

for number in range(first, last + 1):

print(number, end = *" "*)

#Qn 1b)

#Add all the numbers between num1 and num2

num1, num2 = eval(input(*"Enter 2 numbers:"*))

if num1 < num2:

for number in range(num1, num2 + 1):

print(number, end = *" "*)

else:

for number in range(num2, num1 + 1):

print(number, end = *" "*)

#Qn1b) version 2

num1, num2 = eval(input(*"Enter 2 numbers:"*))

if num1 < num2:

first = num1

last = num2 + 1

else:

first = num2

last = num1 + 1

total = 0

for number in range(first, last):

print(number, end = *" "*)

total = total + number

print(*"total is"*, total)

Enter 2 numbers 13,25

13 14 15 16 17 18 19 20 21 22 23 24 25 Enter 2 numbers: 13,25

13 14 15 16 17 18 19 20 21 22 23 24 25 Enter 2 numbers: 13,25

13 14 15 16 17 18 19 20 21 22 23 24 25 total is 247

*'''*

*Ask user to enter 2 numbers: n1, n2, n1 < n2*

*- Print all numbers between n1 and n2*

*- Sum all the numbers*

*- Count how many numbers are divisible by 3 and 5*

*'''*

n1, n2 = eval(input(*"Enter 2 numbers"*))

total = 0

multipleOf3and5 = 0

for number in range (n1, n2 + 1):

print (number, end = *" "*)

total = total + number

if number % 3 == 0 and number % 5 == 0:

multipleOf3and5 = multipleOf3and5 +1

print(total)

print(multipleOf3and5)

Enter 2 numbers 30,40

30 31 32 33 34 35 36 37 38 39 40 385

1

strValue = input(*"Enter something: "*)

number = int(input(*"Enter a number: "*))

for rep in range(number):

print(strValue)

Enter something: hello

Enter a number: 3

hello

hello

hello

strValue = input(*"Enter something: "*)

number = int(input(*"Enter a number: "*))

for rep in range(number):

print(strValue \* (rep + 1) )

Enter something: hello

Enter a number: 5

hello

hellohello

hellohellohello

hellohellohellohello

hellohellohellohellohello

*'''*

*This question is to change the for Loop (question 2) to while loop*

*The input will be in 2 parts: one string and one number*

*If the string is "exit", the loop will stop*

*If not, the string will be print certain number of times*

*'''*

strValue = input(*"Enter string: "*).lower # read and convert to lower case

# Take note that when user wants to end the program, he can

# enter "exit" "EXIT" "eXIT" "ExIT"...

# To simplify the check, we can convert input to either all

# upper case or lower case using upper () or lower () function

# We can do it in 2 steps, read first, then convert

# We can also do both read and convert in one step

# Check whether the loop should continue

while strValue != *"exit"*: # Loop will go on as long as not "exit"

num = int(input(*"Number of time to repeat: "*))

for rep in range(num):

print(strValue)

strValue = input(*"Enter string: "*).lower # Read the next string then back to the top of the loop to check

# If you read this program, it will print the same thing non-stop

#Infinite loop

# Notice we have a loop inside another loop: nested loop

n = int(input(*"Enter an integer number:"*))

for number in range(1, 6):

print(number, *"X"*, n, *"="*, (number \* n))

Enter an integer number: 5

1 X 5 = 5

2 X 5 = 10

3 X 5 = 15

4 X 5 = 20

5 X 5 = 25

n = int(input(*"Enter an integer number:"*))

rows = int(input(*"How many rows to print"*))

for number in range(1, rows + 1):

print(number, *"X"*, n, *"="*, (number \* n))

How many rows to print 10

1 X 5 = 5

2 X 5 = 10

3 X 5 = 15

4 X 5 = 20

5 X 5 = 25

6 X 5 = 30

7 X 5 = 35

8 X 5 = 40

9 X 5 = 45

10 X 5 = 50

*'''*

*Extra question on for loop*

*Roll 2 dices*

*If they form a pair, print a message*

*Count number of time it is a pair*

*'''*

import random

pairCount = 0

for rep in range(100):

dice1 = random.randint(1,6) #Gives diff number between 1 to 6

dice2 = random.randint(1,6)

if dice1 == dice2:

print(*"it is a pair"*)

if dice1 == dice2:

pairCount = pairCount + 1

print(pairCount)

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

it is a pair

1683

*'''*

*While Loop*

*'''*

num = 1

while num <= 10:

print(num)

num = num + 1

for num in range(1,11):

print(num)

1

2

3

4

5

6

7

8

9

10

1

2

3

4

5

6

7

8

9

10

*'''*

*Use a while loop to ask user to enter a number,*

*print the number...*

*Stop the loop when user enter -999*

*- count the number of iteration*

*- sum all the numbers*

*- count the number of even numbers*

*'''*

evenCount = 0

count = 0

total = 0

num = int(input(*"Enter a number: "*))

while num != -999:

count = count + 1

total = total + num

print(num)

if num % 2 == 0:

evenCount = evenCount + 1

num = int(input(*"Enter next number: "*))

print(count)

option = -1

while option != 0:

print(*"1. Option1"*)

print(*"2. Option2"*)

print(*"3. Option3"*)

print(*"0. Quit"*)

option = int(input(*"Enter an option: "*))

if option == 0:

print(*"End of program"*)

elif option >=1 and option <=3:

print(*"Option"*, option, *"selected"*)

else:

print(*"Invalid option"*)

1. Option1

2. Option2

3. Option3

0. Quit

Enter an option: 1

Option 1 selected

1. Option1

2. Option2

3. Option3

0. Quit

Enter an option: 2

Option 2 selected

1. Option1

2. Option2

3. Option3

0. Quit

Enter an option: 3

Option 3 selected

1. Option1

2. Option2

3. Option3

0. Quit

Enter an option: 0

End of program

*'''*

*Use Loop to calculate the square of a number (do not use math function)*

*Given a number: N, the square of N is*

*1 + 3 + 5 .... N times*

*In other words, the first N odd numbers*

*Example:*

*square of 4 is 1 + 3 + 5 + 7 = 16*

*square of 5 is 1 + 3 + 5 + 7 + 9 = 25*

*square of 7 is 1 + 3 + 5 + 7 + 9 + 11 + 13 = 49*

*Therefore, your program will ask for 1 number and compute the square of that number.*

*Various ways to solve, one way is for loop*

*If the input is stored in a variable: num, then the last number is num\*2*

*E.g.*

*num is 4, 4 x 2 = 8*

*num is 5, 5 x 2 = 10*

*num is 7, 7 x 2 = 14*

*so we can use the function: range(1, num\*2)*

*'''*

#First method

num = int(input(*"Enter a number"*))

total = 0

for number in range(1, num\*2, 2): #Remember number will stop at (num\*2) - 1

total = total + number

print(*"Square of"*, num , *"is"*, total)

#Second method

#simply repeat loop "num" times

#Use the same variables: num, total

total = 0

number = 1

for rep in range(num): #Simply run the loop "num" times

total = total + number

number = number + 2 #We increment the number by 2 manually

print(total)

Enter a number 5

Square of 5 is 25

25

*'''*

*This question is similar to something we did before but more general:*

*Ask user to enter a number. Do not convert (don't need to) the input from*

*string to integer.*

*Use a loop to add all the digits in the input*

*Example:*

*User input: "123" output is 6*

*User input: "1011" output is 3*

*User input: "50211" output is 9*

*Use for loop, convert each character to int, add it to total*

*'''*

numStr = input(*"Enter a number: "*) # numStr is read as a string

# Set up a loop to add each character in numStr

total = 0

for oneChar in numStr: # This is one way to setup the loop, for oneChar in numStr” will split the string into individual character

value = int(oneChar) # Convert char to int

total = total + value

print(*"Sum of all digits is"*, total)

#Another version, longer, but may be more "natural"

total = 0

for n in range(len(numStr)): # n is 0, 1, 2, 3, ...

oneChar = numStr[n] # Use the variable name and []

value = int(oneChar) # Same as previous example

total = total + value # Same

print(total)

# Version 2: we use n in range (...) to get a set of values:

# Assuming the input is "1034", len(...) is 4 (characters)

# range(len(numStr)) is actually range(4) which is 0,1,2,3 (n)

# when n = 0, numStr[n] is actually numStr[0] which gives us the first character

# when n = 1, ....[n].....[1]...... second...

# If more comfortable with using index and [], version 2 easir to follow.

Enter a number: 5555

Sum of all digits is 20

*'''*

*while Loop*

*Ask user to enter a number (repeatedly), add this number to a variable called total*

*Keep looping as long as total is < 10*

*After the loop, print the value of total*

*Add a variable: count to keep track of the number of times the Loop is executed*

*Print the value after the Loop*

*# Currently, the loop will continue as long as total is less than 10*

*# Put it other way, the loop will stop when total >= 10*

*# Modify the loop so that the loop will stop when either one of the following is true*

*# total >= 10 or count > 5*

*'''*

total = 0 # This will be the sum of all numbers

count = 0 # This is for counting

# Keep reading and adding with a loop

# Summary: while loop is like if statement in the sense that you can test

# multiple condtions.

while total < 10 and count < 5: # Both conditions must be true in order to repeat loop

num = int(input(*"Enter a number: "*)) # Read one number (convert to int)

total = total + num # Add to the total

count = count + 1 # Add 1 for each iteration

# Print result after loop

print(total)

print(count)

Enter a number: 1

Enter a number: 1

Enter a number: 1

Enter a number: 1

Enter a number: 1

5

5