

New York University
School of Continuing and Professional Studies
Division of Programs in Information Technology

Introduction to Python
Exercise Solutions, Session 2

Ex. 2.1 Write a program that takes user input with **input()** and prints whatever the user typed.

```
user_input = input('please enter some text: ')
print('you just wrote: {}'.format(user_input))
```

Ex. 2.2 Based on the above program, request the user to enter a number and test to see whether it is all digits (hint: use **str.isdigit()** in an **if** test). Simply print a success message if all digits, a failure message if no.

```
user_input = input('please enter an integer: ')

if user_input.isdigit():
    print('THANKS FOR THE INTEGER!')
else:
    print('that was NOT an integer!')
```

Ex. 2.3 Based on the above program, place your whole program inside a **while True:** block. If the input is all digits (i.e., an integer), include the print statement indicating success, and then use **break** to leave the loop, otherwise at the end of the block Python will return to the top of the block automatically and take **input()** again.

```
while True:

    user_input = input('please enter an integer: ')

    if user_input.isdigit():
        print('THANKS FOR THE INTEGER!')
        break
    else:
        print('that was NOT an integer!')
```

Ex. 2.4 Use a while loop to count from 1 to 10. Use an integer counter which you "increment" upon each iteration of the loop. Print each new value of the integer.

```
count = 1
while count <= 10:
    print(count)
    count = count + 1
```

Ex. 2.5 Similar to the above program, use a **while** loop and a counter to print "Happy birthday to you!" 10 times (do not print the integer count in this version).

```
count = 1
while count <= 10:
    print('Happy birthday to you!')
    count = count + 1
```

Ex. 2.6 Modify the above program to take user input with **input()** and print the message that many times.

```
user_input = input('how many times should I greet you? ')

count = 1
while count <= int(user_input):
    print('Happy birthday to you!')
    count = count + 1
```

Ex. 2.7 Modify the above program to test the user input to make sure it is a usable integer. (Hint: use **str.isdigit()**).

```
user_input = input('how many times should I greet you? ')

if not user_input.isdigit():
    exit('error: please enter an integer')

user_input = int(user_input)
count = 1
while count <= user_input:
    print('Happy birthday to you!')
    count = count + 1
```

Ex. 2.8 Use the **str.count()** method to count the number of times 'or' appears in the following text: **I am happy or sad or angry or mad or generous or stingy.**

```
msg = 'I am happy or sad or angry or mad or generous or stingy.'
search_string = 'or'

count = msg.count(search_string)

print(count)
```

Ex. 2.9 Modifying the above program, take user input of a string to count, and then report the number of occurrences in the sentence.

```
msg = 'I am happy or sad or angry or mad or generous or stingy.'
search_string = input('please enter a string to search: ')
```

```
count = msg.count(search_string)

print(count)
```

Ex. 2.10 Taking a user input substring, replace the substring in the string with 'x's

```
msg = 'I am happy or sad or angry or mad or generous or stingy.'
print(msg)

search_string = input('please enter a character to replace: ')
newstring = msg.replace(search_string, 'x')
print(newstring)
```