

## CSCI 1360 – Exam Preparation Exercises

what is the output in `print((10 - 4) * 2 +(10+2))` ?

Write a Python program to check the validity of passwords input by users.

Validation :

At least 1 letter between [a-z] and 1 letter between [A-Z].

At least 1 number between [0-9].

At least 1 character from [\$#@].

Minimum length 6 characters.

Maximum length 16 characters.

Write a Python function that accepts the user's first and last name and prints them in reverse order with a space between them.

Write a Python function that accepts a sequence of comma-separated numbers from the user and generates a list and a tuple of those numbers.

Write a Python program that accepts a filename from the user and prints the extension of the file.

Write a program that displays a table of distances in miles and their equivalent distances in kilometers, rounded to 2 decimal places. One mile is equivalent to 1.60934 kilometers. The table should be generated using a loop, and should include values in 10 mile increments from 10 to 80.

Assuming the ocean's level is currently rising at about 1.6 millimeters per year, create an application that displays the number of millimeters that the ocean will have risen each year for the next 25 years.

Write a program that uses nested loops to draw this pattern:

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Design a program that generates a seven-digit lottery number. The program should generate seven random numbers, each in the range of 0 through 9, and assign each number to a

list element. (Random numbers were discussed in Chapter 5.) Then write another loop that displays the contents of the list.

Create a text file that contains your expenses for last month in the following categories:

- Rent
- Gas
- Food
- Clothing
- Car payment
- Misc

Write a Python program that reads the data from the file and uses matplotlib to plot a pie chart showing how you spend your money.

Write a function that accepts a string and displays the character that appears most frequently in the string.

Write a function that accepts as input a sentence in which all of the words are run together, but the first character of each word is uppercase. Convert the sentence to a string in which

the words are separated by spaces, and only the first word starts with an uppercase letter. For example the string "StopAndSmellTheRoses." would be converted to "Stop and smell the roses."

Write a function that accepts a string containing a date in the form mm/dd/yyyy. It should print the date in the format March 12, 2018.

Assume a file containing a series of integers is named numbers.txt and exists on the computer's disk. Write a program that calculates the average of all the numbers stored in the file.

Write a program that opens a specified text file then displays a list of all the unique words found in the file.

For the following Numpy array named `int\_arr`, write Python code and use Numpy mask to convert all even numbers or the numbers that are less than 10 to zeros in the array. your code should be two lines only. No loops allowed.

41	91	90	94
61	59	62	80
97	69	85	46
49	50	2	3
78	80	97	87

Slice the Numpy array `arr` to extract the highlighted items using one line of code and by mentioning the array variable once.

a	b	c	d
e	f	g	h
i	j	k	l
m	n	o	p
q	r	s	t

Write the output coming after running: `print(arr[-3, 1:])` . Separate the items using a coma, if the output consists of multiple items.

a	b	c	d
e	f	g	h
i	j	k	l
m	n	o	p
q	r	s	t

