Python

# First Coding Languages

What experience do you have programming (e.g., Scratch, python, Java, HTML)? Do you enjoy it? What did you find challenging? (~50 words)

# Why Python

If you knew python well, what would you want to do with it? Write games? Build websites? Automate tasks? Create cybersecurity tools? Artificial intelligence? (~25 words)

# Hello World

Include a screenshot showing 2 things:

1. Use **cat** to show the contents of **hello.py**.
2. Show the output of running **hello.py** in the terminal.



# Strings And Numbers

Fix the following python code so that it runs without error and prints the requested information:

print("He said, "Go away!"")

print('Gosh, it's cold outisde.')

print('I am' 20 ' years old')

# Working With Strings

Write the code to determine the number of characters in "supercalifragilisticexpialidocious".

Write the code to access the 3rd character in "banana".

Write the code to capitalize the first letters of the first and last name of "pat parker". (Don't just capitalize them manually.)

Write the code to make "y" upper case.

# Variables

Fix this code. It is supposed to print "Alice" (with an upper-case “A”), but something is not working.

name = "alice"

name.title()

print(name)

Write the code to set a variable named \*\*age\*\* to 5. Add 10 to the age variable. Print the age variable. (Replace the question marks with your code.)

age = ?

?

print(?)

# Lists

Replace the **?** with a list of 5 numbers. Print the 2nd number in the list.

values = ?

print(?)

Create an empty list called **names**. Add 4 names to the list one at a time. Remove one of them. Print the list.

names = ?

?

?

?

?

?

print(?)

# String, Int, and List Review

Paste your code from review1.py here.

# Dictionaries

When would it be appropriate to use a dictionary instead of a list? (~25 words)

Create an empty dictionary named **location**. Set the key of **state** to the value **Michigan**. Print the dictionary.

location = ?

?

print(?)

# # User Input

Write the code that asks the user, "What is your name?" Convert the answer to title case. On a separate line, print the name.

answer = ?

?

print(?)

# Conditionals

Write a program. The program should ask the user if they want to continue. If they answer, "y" (either uppercase or lowercase), the program should print, "Continuing." Otherwise, the program should print, "Exiting."

answer = ?

if ?

print("Continuing")

?

print("Exiting")

# Loops

Fill in the missing code. The program should loop through the list of fruits and say that each is delicious.

fruits = ["pear", "orange", "watermelon"]

for ?:

print(fruit + " is delicious")

Fill in the missing code. The program should continually prompt the user for domain names and append them to the list. When the user leaves the input blank, the program should print the list and terminate the program.

domains = []

while ?:

answer = ?

if ?:

?

else:

?

# Functions

Write a function called \*\*repeat\*\* that accepts an integer called \*\*times\*\* and a string called \*\*message\*\* as an input. The function should print the \*\*message\*\* the number of \*\*times\*\* specified.

?

i = 1

while 1 < times:

print(message)

Write a function called **betterCase** that accepts a string variable **name** as an input. The function should return the name in title case.

?

?

# Main Method

Add the main method that calls the **start** function in the following code.

data = [1, 2, 3]

def start():

print("Program starting...")

data.append(4)

?

start()

# F-strings

Complete the print() functions using f-strings to create the output in the comments.

pi = 3.1415926535

name = "Alice"

print(?) # "Pi to 2 decimal places is 3.14"

print(?) # "Pi to 3 decimal places is 3.142"

print(?) # "I spoke with Alice today"

Include your code from the Madlib challenge.

# Importing

Add the correct imports so the following code works.

?

?

?

datetime.date.today()

os.getlogin()

hashlib.sha256(b"carrot").hexdigest()

# Review: Reading Code

Include your written description of what the code is doing, line by line, in the exercise.

# Python Dictionary-based Password Cracker

Include the code you wrote for the password cracker.

# Python Hybrid Password Cracker

Include the code you wrote for the password cracker.

# Artificial Intelligence (AI)

Use any AI tool you want to solve the following challenge.

Write a python program that loads a list of student names from a text file, sorts the list alphabetically, and then prints each student’s name.

Explain what the code does.

Will you use AI tools to help you generate code (when allowed)? Why? (~50 words)