Our first in-class activity is worth 1%. So, if you wrote an answer to Q. 10 you get 1%.
In other words, our first in-class activity was marked based on completeness (not correctness).

NOTE: It may not be the case that all our in-class activities will be marked based on completeness. ☺
Why having a Practice Exam?

• Great chance for us ...
  • To practise some more! Yay!
  • To hone our software development skills
  • To ascertain what we understand of the material so far and what is not yet clear
  • To become familiar with:
    • Types and format of questions asked in CMPT 120 exams
    • Writing code on paper (like in our exams)
  • To work in teams
  • And to ask all our questions!

• Our first in-class activity -> 1%
  • Write your answer to Q. 10 on the provided sheet of paper and hand it in at the end of today’s class.

Course grading scheme on our course website: Best 7 in-class exercises out of 10: 1% each, for a total of 7%
Try to answer the questions 1st without using your computer, then confirm your answer using Python IDLE shell!
Consider the following Python code fragment and answer Question 1 and Question 2 below:

```python
num = int(input("Enter an integer: "))
if (num < 10):
    print("The number is 1 digit long.")
else:
    if (num < 100):
        print("The number is 2 digit long.")
    else:
        print("The number has more than 2 digits.")
```

1. For which entered \texttt{int} values will the code fragment above print \texttt{"The number is 2 digit long."}?

   a. Any \texttt{int} value $\geq -9$ and $\leq 9$
   b. Any \texttt{int} value $\leq -99$
   c. The \texttt{int} value 0
   d. Any \texttt{int} value $\geq 10$ and $\leq 99$
   e. None of the above

2. For which entered \texttt{int} values will the code fragment above produce a semantic error?

   a. 56
   b. -10
   c. 0
   d. 256
   e. None of the above
Question 3

What does the following code fragment print?

```python
print("!..?blah".strip("!..h"))
```

Answer: ?bla

Question 4

Fill in the blank lines with the correct answer:

1. "23" < "19" evaluates to __False________
2. "100" < "19" evaluates to __True________

Even though it is not True that the first character “1” of "100" < the first character “1” of "19" (because they are equal), it is actually True that the second character “0” of "100" < the second character “9” of "19"

Make sure you understand how characters are compared.
Question 5

What does the following code fragment print?

```python
pico = "pico"
paco = "paco"
poco = "poco"
if pico+paco in ["pico", "paco", "pico paco"]:
    print("It’s there!")
else:
    print("Not it isn’t!")
```

Answer: Not it isn’t!
Question 6

Consider the following code fragment:

```python
isHappy = False
response = input("How are you today? ").lower()
if response in ["good", "great", "awesome"]:
    isHappy = True
print(isHappy)
```

What would its complete output be if the user inputs *I feel good* when asked the question *How are you today?*?

Answer:

*How are you today?*  *I feel good*

*False*
Question 7

• What string function should we use to replace all occurrences of “8” in a string with “9”?  
  • For example:
    ```
    myString = "8kajsfg8jkge88,jbe8"
    would become
    myNewString = "9kajsfg9jkge99,jbe9"
    ```

• Note that the online textbook we are asked to read calls string functions string methods.

Answer:
```
myNewString = myString.replace("8", "9")
```
Question 8

- What could be wrong with this code?

```python
if reply.lower().strip(" ") == "GOOD"
print("Good!")
```

Answer:
Syntax error: it is missing ":"
Question 9

What does this code fragment output on the computer monitor screen?

```python
movies = ["Superman", "Frozen", "X-Men"]
print("X-men" in movies)
```

Answer:
False
Solve the following problems by writing a Python program **on a piece of paper without using the computer!**
Problem Statement:
Write a Python program that asks the user for a string made of letters.

Let’s assume that the user is well-behaved and does enter a string made of letters.

Your program must then print this string in four different ways:
1. Your program must print the string as the user entered it (i.e., simply echo the string)
2. Your program must print an “all upper case” version of the string
3. Your program must print an “all lower case” version of the string
4. Your program must print a “capitalized” version of the string
   where only its first letter is in upper case and the rest of the string is in lower case letters
5. Finally, your program must print the number of times “e” (or “E”) is found in the original string.

Requirements:
• Make sure your program satisfies the Good Programming Style (GPS) described on our course web site.
Possible Solution to Q. 10

```python
# PE1_Q10.py

# Description: Write a Python program that asks the user
# for a string made of letters.
#
# Let's assume that the user is well-behaved
# and does enter a string made of letters.
#
# The program prints this string in 4 different ways:
# 1. Echo the string the user entered
# 2. Print an "all upper case" version of the string
# 3. Print an "all lower case" version of the string
# 4. Print a "capitalized" version of the string
# 5. Finally, print the number of times "e" (or "E")
#    is found in the original string.
#
# Requirements:
# Make sure your program satisfies the Good
# Programming Style (GPS) described on our
# course web site.

# Anne Lavergne
# Date: Jan. 2024

# Ask user for a string made of letters
userString = input("Please enter a string made of letters: ")

# Echo the string the user entered
print(f"The string you entered is {userString}.")

# Print "all upper case" version of the string the user entered
print(f"The "all upper case" version of your string is: {userString.upper()}.")

# Print "all lower case" version of the string the user entered
print(f"The "all lower case" version of your string is: {userString.lower()}.")

# Print "capitalized" version of the string the user entered
print(f"The "capitalized" version of your string is: {userString.capitalize()}.")

# Print the number of times "e" (or "E") is found in the original string
result = userString.lower().count("e")
print(f""e" (or "E") is found {result} in the string you entered.")
```
Problem Statement:
Write a **Star Wars Bot** that decides if you can be on the Dark side or the Light side.

To be on the Dark side you need to like capes or the color red. Otherwise the bot will recommend you to the Light side.

Requirements:
• Your bot must be robust to upper/lowercase answers of yes and no.

Here are 5 sample runs:
Possible Solution to Q. 11

```python
# PE1_Q11.py

# Description: Write a Star Wars Bot that decides if you can be on the
# Dark side or the Light side.
# To be on the Dark side you need to like capes or the color red.
# Otherwise the bot will recommend you to the Light side.

# Requirements: Your bot must be robust to upper/lowercase answers
# of yes and no.

# Anne Lavergne
# Date: Jan. 2024

# Let the user know what type of bot you are!
print("I will decide if you can join the Dark side.")

# Ask the user your 2 questions and read in the answers from user
userColor = input("Is red your favourite color? ").lower().strip()
userCapes = input("Do you like capes? ").lower().strip()

# If the user likes capes or the color red ...
if userColor == "yes" or userCapes == "yes":
    # Let the user know that they are on the Dark side.
    print("Dark side it is!")
else:
    # Otherwise the user is on the Light side.
    print("Light side, I see.")
```
Solution to Practice Exam 1

• Will be posted on our Canvas web site after this lecture.
• Go over the solution to this Practice Exam 1 and make sure you understand everything.
• If not, ask questions during our office hours!

• Do not wait until the end of the semester to ask questions!
• Clarify what you do not understand now!