

## Outcomes:

- Working with Python as one of Imperative Programming Languages
- Creating an Interpreter using Lexical Analysis and Parsing
- Using regular expression for Lexical Analysis and Parsing
- Managing stacks for function calls using Activation Record Instances

## Scoring (465/565):

- Bonus (max 3 points) or Penalty (max -10 points)
- (10 points) submission on Git with **10 or more commits**. Your Git history should represent the progress of your work.
- (25/25 pts) **Use of regular expression, proper Lexing and Parsing**
- (5 points) Acceptable code style including short methods, comments, etc.
- (60 points) Write an interpreter using python language to execute Z+- (.zpm) programs
  - (5/5 pts) pass test1.zpm. No partial credit.
  - (5/5 pts) pass test2.zpm. No partial credit.
  - (10/10 pts) pass test3.zpm. No partial credit.
  - (10/10 pts) pass test4.zpm. No partial credit.
  - (10/10 pts) pass test5.zpm. No partial credit.
  - (20/\_ pts) pass test6.zpm. No partial credit.
  - (\_/20 pts) pass test7.zpm. No partial credit.

## Requirements:

- On your laptop, add a new folder inside your **CSE465\_565** folder, and call it **Homework6**.
- Your main file **zpm.py** should be saved inside the **Homework#6** folder.
- **There will be no partial credit for this assignment. Your code must either generate correct results for each .zpm file, in which case you will receive full points for that file, or you will receive zero points for that .zpm file if there is even one wrong value in the results.**

## Instructions:

- Similar to what you did in Homework#1, you want to implement a robust interpreter that interprets and runs zpm codes line by line, using regular expressions to do proper Lexing and Parsing.
- Your program must take a .zpm file as a command line argument.
- You can always assume the provided

## Test your program:

- Use the following command to run and test your code:  
`python3 zpm.py code1.zpm`
- There are 6 .zpm files (code1.zpm to code6.zpm) provided on Canvas for you to test your code with.
- There is a **code7.zpm** file specifically for **graduate** students.
- The expected results for running all .zpm files are also provided on Canvas.

Please study the provided .zpm files and expected results to understand how your interpreter should execute the .zpm code line by line.

## Submission:

Submit the GitHub/GitLab URL of the project **Homework6**.

Inside this folder there should be the following files:

1. **Zpm.cpp** and other complimentary classes.
2. All the zpm test files.