

## Programming 1: Lab 11 : Functions, File and Exception Handling

1. Write a python program that reads a python code file (user inputs the path and location) and finds the following:
  - a. The number of import statements that the file has.
  - b. The number of keywords (reserved words) that it has.
  - c. The number of function calls that it has
  - d. Maximum indentation level that is present inside the python code file.
  - e. (Assume that the file does not contain any comments).
2. Copy all the text from a text file from one file to another, except the following stop words : to, are, the, is, was, a, and.
3. Write a function count\_lines() in python to read lines from a text file REPORT.TXT, and count those lines which are starting either with 'A' and starting with 'G' respectively and display the total count separately.
4. Write a python program to find the longest word in a file words.txt.
5. A 6 sided dice is rolled N times (where N is  $\geq 10000$ ).
  - a. Write a program that randomly generates these N dice roll outcomes and finds the frequency counts of each outcome. Use a function to generate the list of random values and return the list. A second function will find the frequency counts and return the counts. The third function will only display the frequency counts.
  - b. Extend the above program by considering a hypothetical dice of 100 sides. Use dictionaries for this. Please note that you do NOT have to use any library functions (e.g., itertools).
6. Write a function which check if provided variable is a valid python variable
7. Write a function which checks if all the items of the list are of the same data type.
8. Write a function which checks if all items are unique in the list.
9. Write a python program that opens a file and handles a FileNotFoundError exception if the file does not exist.
10. Write a python program to handle following errors:
  - a. ZeroDivisionError
  - b. ValueError
  - c. IndexError
  - d. AttributeError