Assignment-1
CS F214
Logic in Computer Science

Total Weightage = 8% Marks = 24

General Instructions:

- The assignment is divided into four days. You need to create separate functions for each day.
- Function signatures and the main function will be given to you. You just need to write the function definitions and upload it.
- Your code will be tested with the given main function for each day.
- **You should strictly follow the filename nomenclature for each day.**
- For each day, the main file is named as "main_No.c" and the header file is named as "dayNo.h". (eg: "main_1.c" and "day1.h"). You will create a new program file for each day and save it as "dayNo.c" (e.g. day1.c).
- If you fail to submit any task before the deadline, you can continue with the next task but you won't be given marks for the task you didn't complete.
- Include appropriate header files in your code whenever necessary.
- You should comment your code properly.
- **Assignment should be done sitting in Systems Lab or Data Science (I014 and I015) labs only.**
- The connective symbols you will use for this assignment is as follows.
  1. ~ for negation
  2. V for OR
  3. ^ for AND
  4. > for implication.

Other Important Instructions:

- Please work as a team. There should be **only one submission per team**.
- **Do not share your code with other team members. Copied codes will be awarded zero marks for the entire assignment. Expecting all of you to be honest.**

Definition of Propositional Logic Formula-

<statement> ::= p | (¬p) |(~(<statement>)) | (<statement> ∧ <statement>) | (<statement> ∨ <statement>) |
(<statement> > <statement>)

Day 1 (14th Oct 2019)

Marks = 4

Learn how to initialize a stack to store characters. Implement the follow operations in stack through separate functions:

1. push(x)
2. pop()
3. isEmpty()
4. isFull()
5. top()

Your code should comply with the main function.

The filename of the header file will be "day1.h". The "day1.h" code is given to you. Please use these function signatures only.

Create a separate file - "day1.c" where you will write all the function definitions.

The "main_1.c" is the main file to test your code. Use it to test your code.
Make sure in all files you have put all the group members' name along with group ID.

Input -

MAX, the first line contains the maximum number of elements in the stack.
N, the second line contains the number of operations user wants to execute.
The next N lines contain various choice of operations ranging from 1 to 5 as mentioned above.
For push operation, your code should take a character as input.

Output -

Your function should generate appropriate outputs for isEmpty(), isFull() and top() functions.

Sample Test Case -

Input -

10
8
1 a
1 b
1 c
2
3
4
5
1 d

Output -

false
false
b