COL 216 Assignment-2

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Approach for Code

- Firstly, we are taking input from our system, that is string and after that on executing we have to provide the string to our OS.
- We have to make sure that the string is not empty if it is empty, we say that the input given is wrong.
- After that we are taking the string and while reading if the characters are integers then add those to a stack that is defined else there is one of the three given operations.
- Any string containing other than those 13 characters will be shown as wrong input.
- Once we got any of those three operations, we have to look at stack if stack contains no integer or only one integer we have to print that the given input is wrong else we have to use some mathematics for calculating (i.e. we can add multiply or subtract using commands) and then have to add the resulting value to our stack.
- Do the same thing and till the length of our string i.e after all operations if stack contains more than one value or integer just print that the given postfix expression is wrong.
- If at last i.e. after doing all such calculations there is only 1 value left in our stack just that will be our answer.

Assumptions made in our design

- Used temporary registers to store the intermediate values in the precision of 32-bits.
- Instead of printing the overflow case we have just ignored it.
- Given the input string of length less than 1000 (inclusive) only.

TEST CASE STRATEGY

➢ AS WE HAVE DESCRIBED DIFFERENT TYPES OF TEST CASES ABOVE SO THEY INCLUDE IF OUR INPUT STRING HAS ELEMENTS OTHER THAN THOSE 13 CHARACTERS.

➢ IN LATER CASE, IF THE STRING IS EMPTY OR JUST HAVE TABS AND SOMETHING ELSE IT WILL ALSO BE A WRONG INPUT IN OUR DESIGN CHOICE.

➢ CHECKED SOME AMBIGUOUS CASES LIKE WHEN ONLY ONE INTEGER IS GIVEN OR 2 INTEGERS ARE GIVEN AND ALSO CHECKED SOME POSTFIX EXPRESSIONS FOR EXPRESSIONS USING BRACKET IN THEIR CALCULATION.

➢ EVEN CHECKED THE CASE WHEN THERE IS A SINGLE INTEGER OR OPERATION WHICH IS REPEATING MANY TIMES IN BETWEEN THE INPUT.

➢ CHECKED THE VALUE OF EACH AND EVERY REGISTER AFTER RUNNING THE CODE AND CONFIRM IT BY MANUAL CALCULATIONS.