PROG2007 - Programming II

Assignment 1

Name: Alice Johnson ID: W0202001

Variables, Operations, and Loops

Write a C program that generates multiplication tables using different loop structures.

TASK REQUIREMENTS:

- Generate a printed N×N table for values N=1 to 13 using for loops
- Table should have column headers showing each N value
- Create a reversed version(13 at top/left) using while loops
- Include clear code comments and consistent formatting
- Preserve the included sample text files for testing

SAMPLE OUTPUT

```
path\to\your\file\ASSIGN1.exe

TABLE OF PRODUCTS(FOR LOOP)
N    1    2    3    4    5    6    7    8    9    10   11   12   13
1    1    2    3    4    5    6    7    8    9    10   11   12   13
2    2    4    6    8    10   12   14   16   18   20   22   24   26
3    3    6    9    12   15   18   21   24   27   30   33   36   39
4    4    8    12   16   20   24   28   32   36   40   44   48   52
5    5    10   15   20   25   30   35   40   45   50   55   60   65
6    6    12   18   24   30   36   42   48   54   60   66   72   78
7    7    14   21   28   35   42   49   56   63   70   77   84   91
8    8    16   24   32   40   48   56   64   72   80   88   96   104
9    9    18   27   36   45   54   63   72   81   90   99   108  117
10   10   20   30   40   50   60   70   80   90   100  110  120  130
11   11   22   33   44   55   66   77   88   99   110  121  132  143
12   12   24   36   48   60   72   84   96   108  120  132  144  156
13   13   26   39   52   65   78   91   104  117  130  143  156  169


REVERSED TABLE OF PRODUCTS(WHILE LOOP)
N    13   12   11   10   9    8    7    6    5    4    3    2    1
13   169  156  143  130  117  104  91   78   65   52   39   26   13
12   156  144  132  120  108  96   84   72   60   48   36   24   12
11   143  132  121  110  99   88   77   66   55   44   33   22   11
10   130  120  110  100  90   80   70   60   50   40   30   20   10
9    117  108  99   90   81   72   63   54   45   36   27   18   9
8    104  96   88   80   72   64   56   48   40   32   24   16   8
7    91   84   77   70   63   56   49   42   35   28   21   14   7
6    78   72   66   60   54   48   42   36   30   24   18   12   6
5    65   60   55   50   45   40   35   30   25   20   15   10   5
4    52   48   44   40   36   32   28   24   20   16   12   8    4
3    39   36   33   30   27   24   21   18   15   12   9    6    3
2    26   24   22   20   18   16   14   12   10   8    6    4    2
1    13   12   11   10   9    8    7    6    5    4    3    2    1
```

```
Process finished with exit code 0
```

Submission Instructions

Video Recording Submission:

You will demonstrate the completion of this project via a **video screen-capture recording** of you using CLion, GitBash, and viewing your code to show completion of the **Video Submission Checklist**, which is posted on Brightspace. You will post **either your video file or a link to it**(e.g. a Microsoft Stream recording, make sure to give the instructor permissions to watch it), to the Brightspace Assignment 1 Dropbox prior to the deadline. If you are not sure of how best to capture such a video, seek advice from the instructor prior to the deadline.

NOTE: MAKE SURE TO SHOW EVERYTHING IN THE VIDEO SUBMISSION CHECKLIST STEP-BY-STEP. YOU WILL NEED AUDIO IN THE VIDEO FOR AT LEAST THE CODE REVIEW PORTION OF THE CHECKLIST