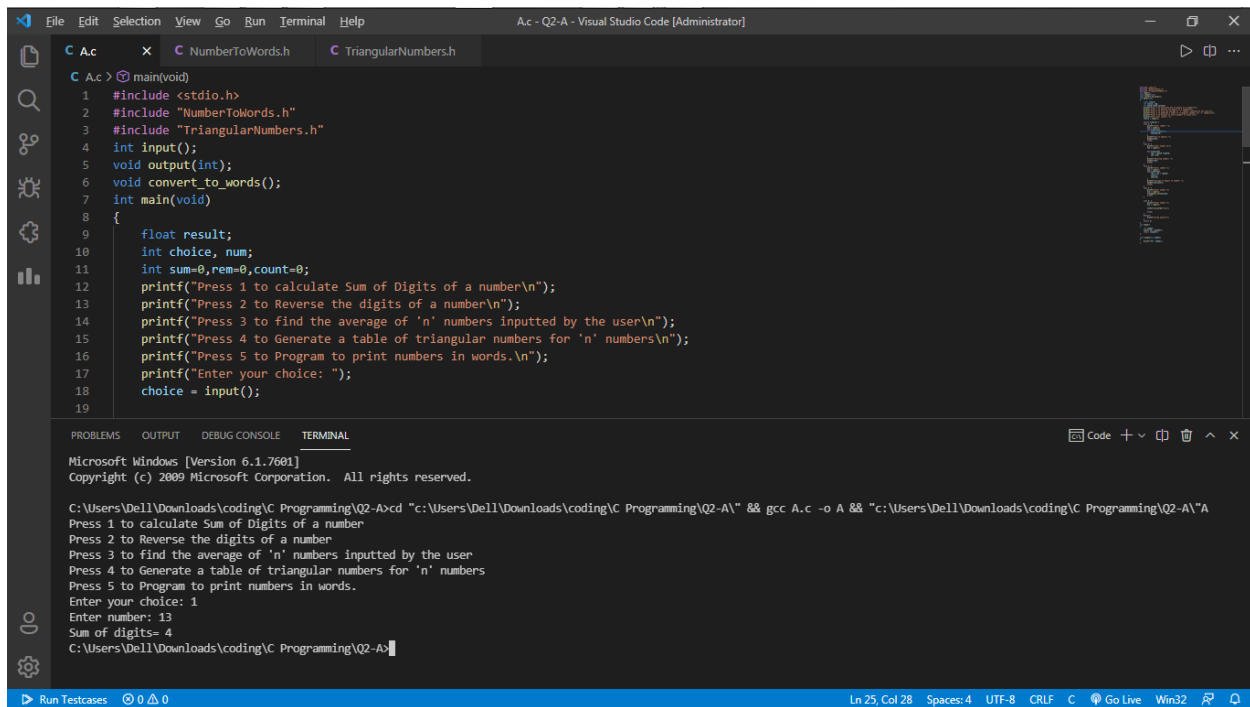


Outputs for Q2)A)

Q2) a)

a) Sum of Digits of a number



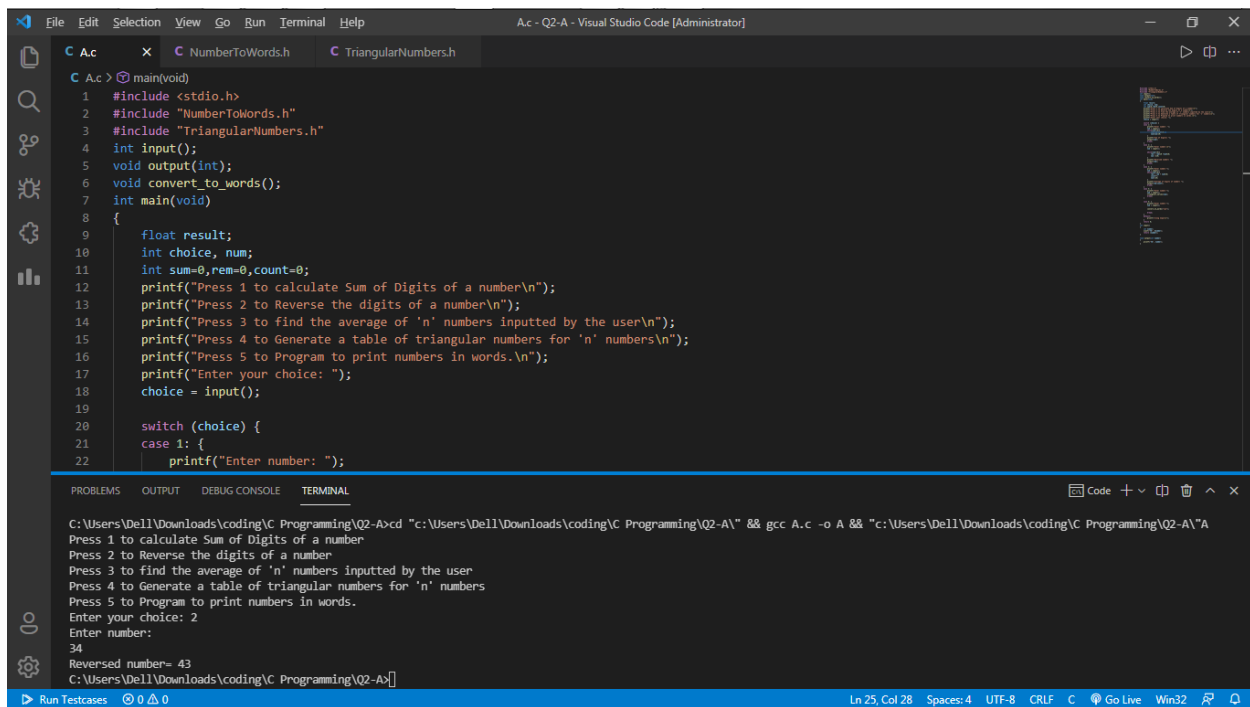
The screenshot shows the Visual Studio Code editor with a C program open. The program includes headers for `stdio.h`, `NumberToWords.h`, and `TriangularNumbers.h`. It defines functions `input()`, `output(int)`, and `convert_to_words()`. The `main` function prompts the user to choose an option (1-5) and then takes an input number. In the terminal, the user has entered choice 1 and the number 13, resulting in the output 'Sum of digits= 4'.

```
C A.c > main(void)
1  #include <stdio.h>
2  #include "NumberToWords.h"
3  #include "TriangularNumbers.h"
4  int input();
5  void output(int);
6  void convert_to_words();
7  int main(void)
8  {
9      float result;
10     int choice, num;
11     int sum=0,rem=0,count=0;
12     printf("Press 1 to calculate Sum of Digits of a number\n");
13     printf("Press 2 to Reverse the digits of a number\n");
14     printf("Press 3 to find the average of 'n' numbers inputted by the user\n");
15     printf("Press 4 to Generate a table of triangular numbers for 'n' numbers\n");
16     printf("Press 5 to Program to print numbers in words.\n");
17     printf("Enter your choice: ");
18     choice = input();
19
20     switch (choice) {
21     case 1: {
22         printf("Enter number: ");
```

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Dell\Downloads\coding\C Programming\Q2-A>cd "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\" && gcc A.c -o A && "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\A"
Press 1 to calculate Sum of Digits of a number
Press 2 to Reverse the digits of a number
Press 3 to find the average of 'n' numbers inputted by the user
Press 4 to Generate a table of triangular numbers for 'n' numbers
Press 5 to Program to print numbers in words.
Enter your choice: 1
Enter number: 13
Sum of digits= 4
C:\Users\Dell\Downloads\coding\C Programming\Q2-A>

b) Reverse the digits of a number

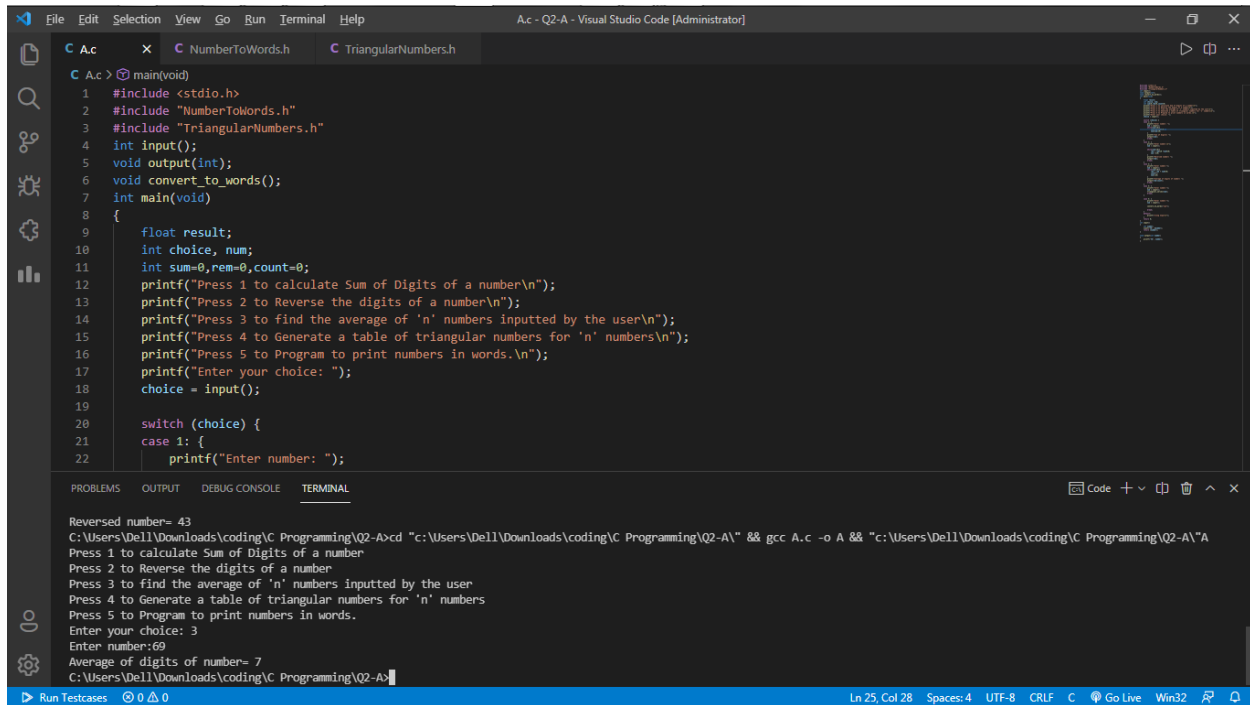


The screenshot shows the same Visual Studio Code editor with the same C program. In the terminal, the user has entered choice 2 and the number 34, resulting in the output 'Reversed number= 43'.

```
C A.c > main(void)
1  #include <stdio.h>
2  #include "NumberToWords.h"
3  #include "TriangularNumbers.h"
4  int input();
5  void output(int);
6  void convert_to_words();
7  int main(void)
8  {
9      float result;
10     int choice, num;
11     int sum=0,rem=0,count=0;
12     printf("Press 1 to calculate Sum of Digits of a number\n");
13     printf("Press 2 to Reverse the digits of a number\n");
14     printf("Press 3 to find the average of 'n' numbers inputted by the user\n");
15     printf("Press 4 to Generate a table of triangular numbers for 'n' numbers\n");
16     printf("Press 5 to Program to print numbers in words.\n");
17     printf("Enter your choice: ");
18     choice = input();
19
20     switch (choice) {
21     case 1: {
22         printf("Enter number: ");
```

C:\Users\Dell\Downloads\coding\C Programming\Q2-A>cd "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\" && gcc A.c -o A && "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\A"
Press 1 to calculate Sum of Digits of a number
Press 2 to Reverse the digits of a number
Press 3 to find the average of 'n' numbers inputted by the user
Press 4 to Generate a table of triangular numbers for 'n' numbers
Press 5 to Program to print numbers in words.
Enter your choice: 2
Enter number: 34
Reversed number= 43
C:\Users\Dell\Downloads\coding\C Programming\Q2-A>

c) Average of 'n' numbers inputted by the user



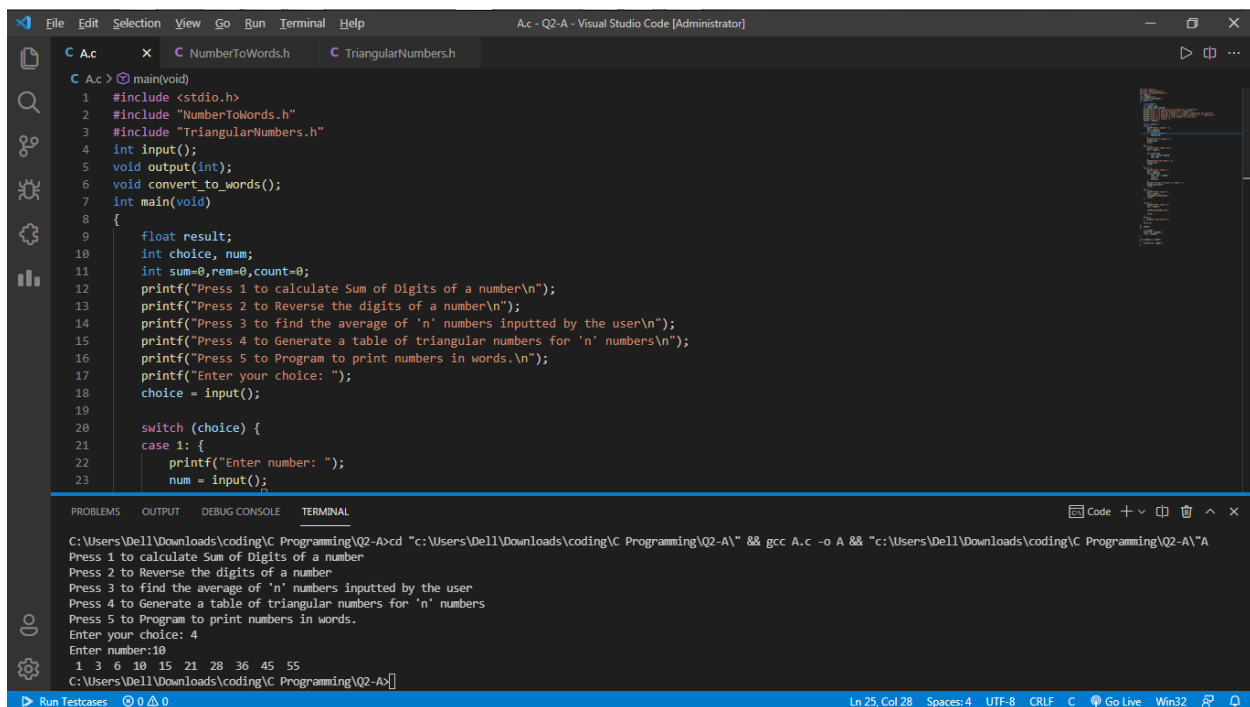
```
File Edit Selection View Go Run Terminal Help
A.c - Q2-A - Visual Studio Code [Administrator]

C A.c x C NumberToWords.h C TriangularNumbers.h

C A.c > main(void)
1 #include <stdio.h>
2 #include "NumberToWords.h"
3 #include "TriangularNumbers.h"
4 int input();
5 void output(int);
6 void convert_to_words();
7 int main(void)
8 {
9     float result;
10    int choice, num;
11    int sum=0,rem=0,count=0;
12    printf("Press 1 to calculate Sum of Digits of a number\n");
13    printf("Press 2 to Reverse the digits of a number\n");
14    printf("Press 3 to find the average of 'n' numbers inputted by the user\n");
15    printf("Press 4 to Generate a table of triangular numbers for 'n' numbers\n");
16    printf("Press 5 to Program to print numbers in words.\n");
17    printf("Enter your choice: ");
18    choice = input();
19
20    switch (choice) {
21    case 1: {
22        printf("Enter number: ");
23        num = input();
24        result = sum_of_digits(num);
25        output(result);
26        break;
27    case 2: {
28        result = reverse_digits(num);
29        output(result);
30        break;
31    case 3: {
32        result = average_of_n_numbers(num);
33        output(result);
34        break;
35    case 4: {
36        result = generate_triangular_numbers(num);
37        output(result);
38        break;
39    case 5: {
40        result = print_numbers_in_words(num);
41        output(result);
42        break;
43    default:
44        printf("Invalid choice\n");
45    }
46    }
47    }

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
C:\Users\ DELL\Downloads\coding\C Programming\Q2-A>cd "c:\Users\ DELL\Downloads\coding\C Programming\Q2-A\" && gcc A.c -o A && "c:\Users\ DELL\Downloads\coding\C Programming\Q2-A\A
Press 1 to calculate Sum of Digits of a number
Press 2 to Reverse the digits of a number
Press 3 to find the average of 'n' numbers inputted by the user
Press 4 to Generate a table of triangular numbers for 'n' numbers
Press 5 to Program to print numbers in words.
Enter your choice: 3
Enter number:69
Average of digits of number= 7
C:\Users\ DELL\Downloads\coding\C Programming\Q2-A>
```

d) Generate a table of triangular numbers for 'n numbers.



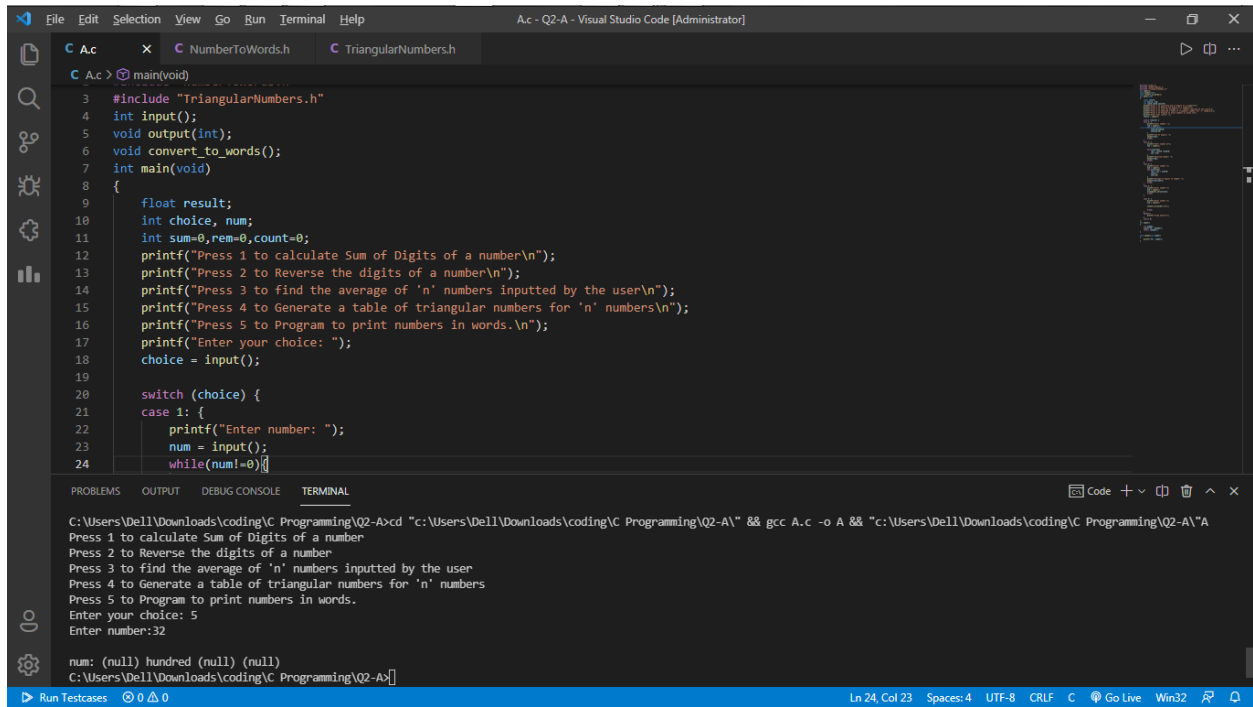
```
File Edit Selection View Go Run Terminal Help
A.c - Q2-A - Visual Studio Code [Administrator]

C A.c x C NumberToWords.h C TriangularNumbers.h

C A.c > main(void)
1 #include <stdio.h>
2 #include "NumberToWords.h"
3 #include "TriangularNumbers.h"
4 int input();
5 void output(int);
6 void convert_to_words();
7 int main(void)
8 {
9     float result;
10    int choice, num;
11    int sum=0,rem=0,count=0;
12    printf("Press 1 to calculate Sum of Digits of a number\n");
13    printf("Press 2 to Reverse the digits of a number\n");
14    printf("Press 3 to find the average of 'n' numbers inputted by the user\n");
15    printf("Press 4 to Generate a table of triangular numbers for 'n' numbers\n");
16    printf("Press 5 to Program to print numbers in words.\n");
17    printf("Enter your choice: ");
18    choice = input();
19
20    switch (choice) {
21    case 1: {
22        printf("Enter number: ");
23        num = input();
24        result = sum_of_digits(num);
25        output(result);
26        break;
27    case 2: {
28        result = reverse_digits(num);
29        output(result);
30        break;
31    case 3: {
32        result = average_of_n_numbers(num);
33        output(result);
34        break;
35    case 4: {
36        result = generate_triangular_numbers(num);
37        output(result);
38        break;
39    case 5: {
40        result = print_numbers_in_words(num);
41        output(result);
42        break;
43    default:
44        printf("Invalid choice\n");
45    }
46    }
47    }

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
C:\Users\ DELL\Downloads\coding\C Programming\Q2-A>cd "c:\Users\ DELL\Downloads\coding\C Programming\Q2-A\" && gcc A.c -o A && "c:\Users\ DELL\Downloads\coding\C Programming\Q2-A\A
Press 1 to calculate Sum of Digits of a number
Press 2 to Reverse the digits of a number
Press 3 to find the average of 'n' numbers inputted by the user
Press 4 to Generate a table of triangular numbers for 'n' numbers
Press 5 to Program to print numbers in words.
Enter your choice: 4
Enter number:10
1 3 6 10 15 21 28 36 45 55
C:\Users\ DELL\Downloads\coding\C Programming\Q2-A>
```

e) Program to print numbers in words



The screenshot shows the Visual Studio Code editor with a C program titled "NumberToWords.h" and "TriangularNumbers.h". The program is a menu-driven application that allows users to perform various operations on numbers. The terminal output shows the program running successfully, displaying the menu and the user's input.

```
1 #include "TriangularNumbers.h"
2
3 int input();
4 void output(int);
5 void convert_to_words();
6
7 int main(void)
8 {
9     float result;
10    int choice, num;
11    int sum=0, rem=0, count=0;
12    printf("Press 1 to calculate Sum of Digits of a number\n");
13    printf("Press 2 to Reverse the digits of a number\n");
14    printf("Press 3 to find the average of 'n' numbers inputted by the user\n");
15    printf("Press 4 to Generate a table of triangular numbers for 'n' numbers\n");
16    printf("Press 5 to Program to print numbers in words.\n");
17    printf("Enter your choice: ");
18    choice = input();
19
20    switch (choice) {
21    case 1: {
22        printf("Enter number: ");
23        num = input();
24        while(num!=0){
```

Terminal Output:

```
C:\Users\Dell\Downloads\coding\C Programming\Q2-A>cd "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\" && gcc A.c -o A && "c:\Users\Dell\Downloads\coding\C Programming\Q2-A\"A
Press 1 to calculate Sum of Digits of a number
Press 2 to Reverse the digits of a number
Press 3 to find the average of 'n' numbers inputted by the user
Press 4 to Generate a table of triangular numbers for 'n' numbers
Press 5 to Program to print numbers in words.
Enter your choice: 5
Enter number: 32

num: (null) hundred (null) (null)
C:\Users\Dell\Downloads\coding\C Programming\Q2-A>
```