```
/*
 * William Kelley
 * DisplayingTrianglesClass.cs
 * ITE365-Assignment 1(Problem 1)
 * Received some assistance from a senior programmer where I work, the post increment is where
 * the most assistance was provided
*/

using System;

namespace DisplayingTrianglesApp
{
    class MainClass
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("Triangle Display");

            for (int i = 0; i < 9; ++i)
            {
                for (int j = 0; j <= i; ++j)
                    Console.Write("*");

                for (int j = 0; j < 9 - i - 1; ++j)
                    Console.Write(" ");

                for (int j = 0; j < 9 - i; ++j)
                    Console.Write("*");

                for (int j = 0; j < 2 * i; ++j)
                    Console.Write(" ");

                for (int j = 0; j < 9 - i; ++j)
                    Console.Write("*");

                for (int j = 0; j < 9 - i - 1; ++j)
                    Console.Write(" ");

                for (int j = 0; j <= i; ++j)
                    Console.Write("*");

                Console.WriteLine();
            }
        }
    }
}
```

```
Triangle Display
*          ******************          *
**         ********  ********         **
***        *******    *******        ***
****       ******      ******       ****
*****      *****        *****      *****
******     ****          ****     ******
*******    ***            ***    *******
********   **              **   ********
*********                      *********

Press any key to continue...
```

```
// William Kelley
// PythagoreanTriplesClass.cs
// ITE365-Assignment 1(Problem 2)

using System;

namespace PythagoreanTripsApp
{
    class MainClass
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("Side 1\tSide 2\tHypotenuse");
            // Nested loops to try Pythagorean Triples
            for (int i = 1; i <= 500; i++)
            {
                for (int j = i; j <= 500; j++)
                {
                    for (int k = i; k <= 500; k++)
                    {
                        if (Math.Pow(i, 2) + Math.Pow(j, 2) == Math.Pow(k, 2))
                        {
                            Console.WriteLine("{0}\t{1}\t{2}", i, j, k);
                        }
                    }
                }
            }
        }
    }
}
```

Side 1	Side 2	Hypotenuse
3	4	5
5	12	13
6	8	10
7	24	25
8	15	17
9	12	15
291	388	485
294	392	490
297	304	425
297	396	495
300	315	435
300	400	500
319	360	481
320	336	464
325	360	485
340	357	493

```
/*
 * William Kelley
 * PalindromesClass.cs
 * ITE365-Assignment 1(Problem 3)
*/

using System;

namespace PalindromesApp
{
    class MainClass
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("Enter a 5-digit integer to see if it is a Palindrome(-1 to exit):
");
            string num = Console.ReadLine();
            while (num != "-1")
            {
                if(num.Length == 5)
                {
                    Console.WriteLine("{0} reverse as a string is {1}",
                    num, ReverseDigitsUsingStrings(num));
                    if (num == ReverseDigitsUsingStrings(num))
                    {
                        Console.WriteLine("The integer entered is a valid palindrome.");
                    }
                    else
                    {
                        Console.WriteLine("The integer entered is NOT a valid palindrome");
                    }
                }
                else
                {
                    Console.WriteLine("Number is not a 5-digit integer, please enter a 5-digit
integer");
                }
                Console.Write("(String Reverse)Enter a number (-1 to exit): ");
                num = Console.ReadLine();
            }
        }

        // display parameter num with digits reversed as a string
        public static string ReverseDigitsUsingStrings(string num)
        {
            char[] charArray = num.ToCharArray();
            Array.Reverse(charArray);
            return new string(charArray);
        }
    }
}
```

```
Enter a 5-digit integer to see if it is a Palindrome(-1 to exit):
412
Number is not a 5-digit integer, please enter a 5-digit integer
(String Reverse)Enter a number (-1 to exit): 45678
45678 reverse as a string is 87654
The integer entered is NOT a valid palindrome
(String Reverse)Enter a number (-1 to exit): 45554
45554 reverse as a string is 45554
The integer entered is a valid palindrome.
(String Reverse)Enter a number (-1 to exit): 90909
90909 reverse as a string is 90909
The integer entered is a valid palindrome.
(String Reverse)Enter a number (-1 to exit): 00099
00099 reverse as a string is 99000
The integer entered is NOT a valid palindrome
(String Reverse)Enter a number (-1 to exit): -1

Press any key to continue...
```