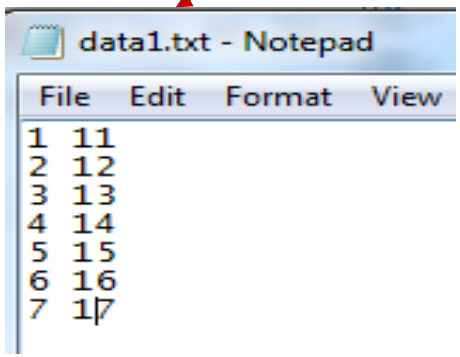
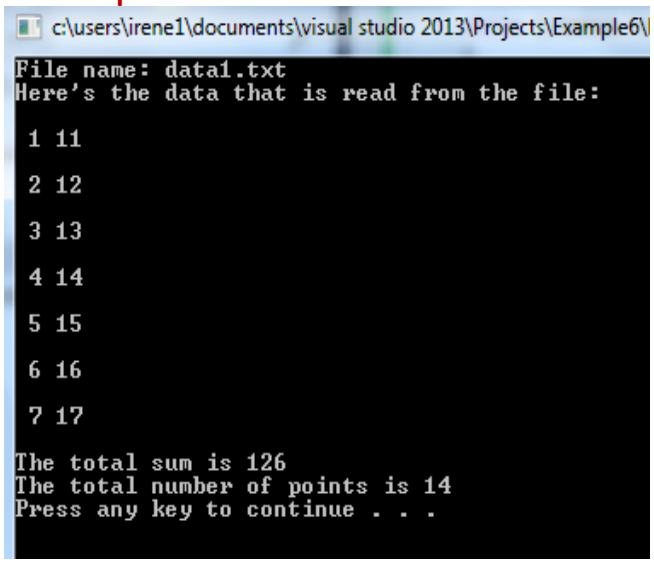
Practice Problem



Output should look like this



- Create the file "data1.txt", with the data in columns (x y)
- Ask the user for the file name, and check for user error (Hint: use NULL)
- Read the x and y variables as arrays from the file
  - Both x and y should be in int format so declare them like this: int x[10], y[10] → 10 would then be the maximum number of pairs that could be read in
  - Use EOF to find the end of the file
- Write the x and y pairs to the screen and to another data file called "OutputData.txt"
- Get the sum of all the values and print "The sum is: *sum*" to the screen and to the "OutputData.txt" file
- Get the total number of points in the file and print "The total number of points is: *number*" to the screen and to the "OutputData.txt" file

```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int x[10], y[10], status = 2, i = 0, sumArray = 0, numPoints = 0;
    char filename[50];
    //Pointers
    FILE *infile;
    FILE *outfile;

    //Use do while loop to get file name from user
    do
    {
        printf("Enter file name: \n");
        scanf("%s", filename);
        infile = fopen(filename, "r");
    } while (infile == NULL);

    outfile = fopen("OutputData.txt", "w");
    printf("Here's the data that is read from the file: \n\n");

    //Read data, check for EOF, print data
    while (status != EOF && status == 2)
    {
        status = fscanf(infile, "%d %d", &x[i], &y[i]);
        if (status == EOF)
            break;
        printf("%d %d\n\n", x[i], y[i]);
        fprintf(outfile, "%d %d\n\n", x[i], y[i]);

        //Get sum of all the values
        sumArray = sumArray + x[i] + y[i];

        //Get number of x-y pairs of points in the file
        numPoints = numPoints + status;
        i = i + 1;
    }

    //Print sum and number of points
    printf("The total sum is %d\n", sumArray);
    printf("The total number of points is %d\n", numPoints);
    fprintf(outfile, "The total sum is %d\n", sumArray);
    fprintf(outfile, "The total number of points is %d\n", numPoints);

    fclose(infile);
    fclose(outfile);
}
```