

```
/*
 * while2.c
 * Adapted from earlier solution by Prof. George Cheney
 * 16.216: ECE Application Programming
 * ECE Dept., UMass Lowell
 *
 * PURPOSE: Read list of grades from keyboard and compute average
 *
 * DEMONSTRATES: A counting loop with a flexible limit
 */

#include <stdio.h>

int main()
{
    int numGrades;      // Requested # of grades
    int gradeCount;     // Counts # of grades processed so far

    double grade;       // An individual grade to be processed
    double gradeSum;    // Running total
    double avgGrade;    // Average grade

    // Prompt for and read # of grades
    printf("How many grades? ");
    scanf("%d", &numGrades);

    // Prompt user to enter grades
    printf("Enter %d grades:\n", numGrades);

    // Initialize loop
    gradeSum = 0;
    gradeCount = 0;

    // Repeatedly read grades until limit is reached
    while (gradeCount < numGrades) {
        scanf("%lf", &grade);      // Read grade and accumulate it
        gradeSum = gradeSum + grade;

        gradeCount = gradeCount + 1; // Increment grade count
    }

    // Compute and display the average
    avgGrade = gradeSum / numGrades;
    printf("Average grade = %1.11f\n", avgGrade);
    return 0;
}
```