

Programming with C I

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Endfile-Controlled Loop Design

- 🛡️ Get the first *data value* and save *input status*
- 🛡️ while *input status* does not indicate that end of file has been reached
- 🛡️ Process data value
- 🛡️ Get next data value and save *input status*

Figure Batch Version of Sum of Exam Scores Program

```
/*
 * Compute the sum of the list of exam scores stored in the file scores. txt
 */
#include <stdio.h>

int main(void)
{
    int sum = 0,          /* sum of scores input so far */
        score,          /* current score */
        input_status;   /* status value returned by scanf */

    printf("Scores\n");

    input_status = scanf("%d", &score);
    while (input_status != EOF) {
        printf("%5d\n", score);
        sum += score;
        input_status = scanf("%d", &score);
    }

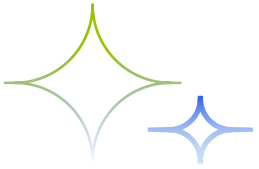
    printf("\nSum of exam scores is %d\n", sum);

    return (0);
}

Scores
  55
  33
  77
sum of exam scores is 165
```

Nested Loops

- Loops may be nested just like other control structures
- Nested loops consist of an outer loop with one or more inner loops
- Each time the outer loop is repeated, the inner loops are reentered, their loop control expressions are evaluated, and all required iterations are performed



THE END

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