

```
#include <stdio.h>

#include <string.h>

int main() {

    char bitStream[1000]; // Buffer for input

    int zeros = 0;

    int ones = 0;

    int totalBits = 0;

    int isValid = 1; // Flag to check if input is valid


    printf("Enter the bit stream (containing only 0s and 1s): ");

    scanf("%s", bitStream);


    // Count bits
    for(int i = 0; bitStream[i] != '\0'; i++) {

        if(bitStream[i] == '0') {

            zeros++;

            totalBits++;

        }

        else if(bitStream[i] == '1') {

            ones++;

            totalBits++;

        }

        else {

            isValid = 0; // Invalid character found

            break;

        }

    }


    // Display results

    if(isValid) {
```

```
printf("\nBit Stream Analysis Results:\n");
printf("-----\n");
printf("Total number of bits: %d\n", totalBits);
printf("Number of 0s: %d\n", zeros);
printf("Number of 1s: %d\n", ones);
printf("Percentage of 0s: %.2f%%\n", (float)zeros/totalBits * 100);
printf("Percentage of 1s: %.2f%%\n", (float)ones/totalBits * 100);
}
else {
    printf("\nError: Invalid input! Please enter only 0s and 1s.\n");
}

return 0;
}
```