

```

#include <stdio.h>
#include <stdbool.h>

void encodeData(int data[], int dataLength, int generator[], int generatorLength, int
encodedData[]) {
    // ... Implementation of encoding ...
}

bool checkCRC(int encodedData[], int encodedLength, int generator[], int generatorLength) {
    // ... Implementation of CRC check ...
}

int main() {
    int data[] = {1, 0, 1, 0, 1, 1, 0, 0}; // Example data
    int generator[] = {1, 0, 1, 1}; // Example generator polynomial
    int encodedData[12]; // Example encoded data

    encodeData(data, sizeof(data) / sizeof(data[0]), generator, sizeof(generator) /
sizeof(generator[0]), encodedData);

    // Simulate an error
    int errorIndex = 2;
    encodedData[errorIndex] = 1 - encodedData[errorIndex];

    bool isCorrect = checkCRC(encodedData, sizeof(encodedData) / sizeof(encodedData[0]),
generator, sizeof(generator) / sizeof(generator[0]));
    printf("Is the received data correct? %s\n", isCorrect ? "Yes" : "No");

    return 0;
}

```