Welcome to the ENEE 150 Spreadsheet
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2. Enter Value
3. Enter Formula
4. Copy Cell
5. Display Cell
6. Exit
Enter Operation: 0 1 2 3 4 5 6 7 8 9 10 11

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Enter Operation:

3 search.h

/*
 * Header file for the linear search program.
4  search.c

/*
   This program creates an array of random numbers. Then, it prompts
   the user for a number, and searches for the number in the array.
   The program uses a linear search algorithm.
   */

#include <stdio.h>
#include "search.h"

int data[SIZE];

#ifndef OMIT_MAIN
int main()
{
    int value, index;

    create_data();
    print_data();

    /* Continually prompt the user for a value, and search for it in the
       array */
    while (TRUE) {
        printf("Enter a number to find: ");
        scanf("%d", &value);
        index = search(value);

        if (index == SIZE) {

3
printf("Could not find the number %d in the array\n", value);
} else {
    printf("Found the number %d after %d tries\n", value, index+1);
}
}

/* this program never returns */
#endif

/* Insert the values 1-SIZE into the array at random indices. */
void create_data()
{
    int i, index;
    for (i = 0; i < SIZE; i++) {
        data[i] = rand() % SIZE;
    }
}

/* Prints all the values in the data array */
void print_data()
{
    int i;
    for (i = 0; i < SIZE; i++) {
        printf("%d ", data[i]);
    }
    printf("\n");
}

/* Given a "value", search for the value in the data array by sequentially traversing the elements in the array starting from the first element. Stop the search when the value is found, or when the end of the array is reached. */
int search(int value)
{
    int i;

    /* linear search code */
    for (i = 0; i < SIZE; i++) {
        if (data[i] == value) {
Computation structures:

- `#ifndef` to omit code

5  **driver.c**

```c
#include <stdio.h>
#include "search.h"

int main()
{
    int i, index, error = FALSE;

    create_data();

    for (i = 0; i < SIZE; i++) {
        index = search(data[i]);
        if (index != i) {
            if (data[index] != data[i]) {
                error = TRUE;
            }
        }
    }

    if (!error)
        printf("PASSED\n");
    else
        printf("ERROR\n");
}
```

- Separate driver main function for testing.