Lab 12: Pointers and Arrays

CSE 4108

Structured Programming I Lab

November 2022

Lab Tasks

1. **From the back!:**

(a) Write a program that reads a message, then prints the reversal of the message.

Sample run:

```
Enter a message: Eleven cheers for binary!
Reversal is: !yranib rof sreehc nevelE
```

(b) Revise the program to use a **pointer** instead of an integer to keep track of the current position in the array.

(c) Simplify the program by taking advantage of the fact that an array name can be used as a pointer.

2. **Palindrome:**

(a) Write a program that reads a message, then checks whether it's a palindrome (the letters in the message are the same from left to right as from right to left).

Sample run:

```
Enter a message: A Man, A Plan, A Canal-Panama!
Palindrome
Enter a message: Madam, I am Adam.
Not a palindrome
```

Ignore all characters that aren't alphabets. Use integer variables to keep track of positions in the array.

(b) Revise the program to use pointers instead of integers to keep track of positions in the array.

(c) Simplify the program by taking advantage of the fact that an array name can be used as a pointer.

3. **Word-Unit Palindromes 2:**

In ***Lab 9 - Arrays*** *(problem: Word unit Palindromes)*, you wrote a program that reverses the words in a sentence. Modify the program so that it uses a pointer instead of an integer to keep track of the current position in the array that contains the sentence.

4. **Position through Pointers:**

Modify the **maxmin.c** (Page 249 - Section 11.4) program so that the **max_min** function uses a pointer instead of an integer to keep track of the current position in the array. Output the position of the max and min value in the array instead of the values themselves. Positions are calculated from 1 to n.

Sample Run:

```
Enter 10 Numbers: 34 82 49 102 7 94 23 11 50 31
Max Position: 4
Min Position: 5
```