CMPE 312- OPERATING SYSTEMS

Exercise 2A(Monday 9-11)

Loops and Static Arrays

Control Structures:

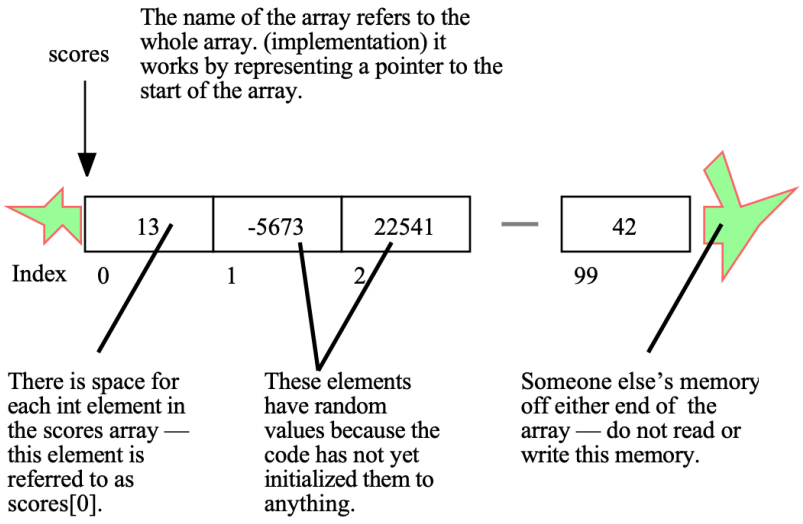
In C programming language, we again have all the types of conditional statements such as if/else if and switch statements as in Java.

Do-while, while and for loops are available types of loops and also it is possible to use break and continue statements in C.

Arrays:

The simplest type of array in C is one which is declared and used in one place. There are more complex uses of arrays which we will address later along with pointers. The following declares an array called scores to hold 100 integers and sets the first and last elements. C arrays are always indexed from 0. So the first int in scores array is scores[0] and the last is scores[99].

```
int scores[100];
scores[0] = 13;
scores[99] = 42;
```



C Strings:

A C string is just an array of char with the one additional convention that a "null" character ('\0') is stored after the last real character in the array to mark the end of the string.

The most useful library function is strcpy(char dest[], const char source[]); which copies the bytes of one string over to another. The order of the arguments to strcpy() mimics the arguments in of '=' -- the right is assigned to the left. Another useful string function is strlen(const char string[]); which returns the number of characters in C string not counting the trailing '\0'.

Note that the regular assignment operator (=) does not do string copying which is why strcpy() is necessary.

```
char localString[10];
strcpy(localString, “hello");
```

Exercise:

In the following program, there is one array of characters created and length information is known beforehand.

You are expected to create a C program to display the reverse of the word.

```c
#include <stdio.h>

int main(){

  char string[1000]; // string is a local 1000 char array
  int len;
  strcpy(string, "merhaba");
  len = strlen(string);

  return 0;
}
```