CMPSCI 230 – Discussion 3

C programming

MORE C PROGRAMMING

-std=c99 flag of gcc

- variable declaration anywhere
- // comments
- falling off of a function without returning any value is equivalent to return 0
- variable-length arrays

Group Activity:
What does "method" do?

```
void method(int pivot_index, int A[], int n) {
    int pivot = A[pivot_index];
    int smaller = 0, equal = 0, larger = n - 1;
    while(equal <= larger) {
        if(A[equal] < pivot) {
            swap(A, smaller++, equal++);
        } else if (A[equal] == pivot) {
            ++equal;
        } else {
            swap(A, equal++, larger--);
        }
    }
}
```

```
void swap(int arr[], int i, int j)
{
    int temp = arr[i];
    arr[i] = arr[j];
    arr[j] = temp;
}
```

i-clicker question

Will the code compile without errors?   **a) Yes**   **b) No**

```
#include <stdio.h>

int main() {
  int a[10];
  a[0] = 23;
  int i;
  for(i = 0 ; i < 11; i++) {
    printf("%d\n", a[i+1]=a[i]+1);
  }
  return 0;
}
```

i-clicker question

Will the code run without errors?   **a)** Yes   **b)** No

```c
#include <stdio.h>

int main() {
  int a[10];
  a[0] = 23;
  int i;
  for(i = 0 ; i < 11; i++) {
    printf("%d\n", a[i+1]=a[i]+1);
  }
  return 0;
}
```

Debugging

```c
#include <stdio.h>

int main() {
  char ch;
  int i;
  for(i = 0 ; i < 5; i++) {
    printf("Enter a character between a and z\n");
    ch = getchar();
    switch(ch) {
      case 'a':
        printf("The input character is 'a'\n");
      case 'b':
        printf("The input character is 'b'\n");
      default :
        printf("The input character is not in input
                range\n");
    }
  }
}
```