16.216: ECE Application Programming
Spring 2012

Lecture 28: Key Questions
April 9, 2012

1. Explain the use of arrays: what an array represents, how to define an array, and how to access values within the array.

2. Explain how the following example works:

```
int main(void)
{
  int x[8];
  int i;

   // get 8 values into x[]
   for (i=0; i<8; i++)
   {
        printf("Enter test %d:",i+1);
        scanf("%d",&x[i]);
   }
}
```

3. What happens if we change the loop condition to `i <= 8`? How can we avoid this problem?

4. **Example:** What does the following program print?

```c
int main() {
    int arr[10];
    int i;

    printf("%d elements\n", sizeof(arr) / sizeof(int));

    printf("First loop:\n");
    for (i = 0; i < 10; i++) {
        arr[i] = i * 2;
        printf("arr[%d] = %d\n", i, arr[i]);
    }

    printf("\nSecond loop:\n");
    for (i = 0; i < 9; i++) {
        arr[i] = arr[i] + arr[i + 1];
        printf("arr[%d] = %d\n", i, arr[i]);
    }
    return 0;
}
```