

16.216: ECE Application Programming

Fall 2015

Lecture 18: Key Questions

October 16, 2015

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?

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

    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;
}
```

5. Describe how to declare, initialize, and access two-dimensional arrays.