CS 111

arrays as function parameters

Declaring an array parameter for a function

- Consider a function f that takes an integer parameter x:

```
int f(int x);
```

- Compare to a function f that takes an integer array x of capacity cap:

```
int f(int x[], int cap);
```

- Compare to a function f that takes a 2D integer array x of row capacity row and column capacity col:

```
int f(int x[][col], int row);
```

Models

- Model to declare an array parameter:

BASE_TYPE NAME[]

- Model to declare 2D array parameter:

BASE_TYPE NAME[][COLUMN_CAPACITY]

- Typical model function title to process an array:

ANSWER_TYPE NAME(ARRAY_PARAMETER, int CAPACITY, OTHER PARAMETERS)

Practice reading code, creating title lines

```
int main() {
    int qq[2] = {0, 1};
    double rr[3] = {0, 1.1, 2.2};
    string st[3] = {"1.9", "2.3", "3.0"};
    int x = f1(rr[2] + rr[1], rr[2]);                    // (a) Title line for f1
    st[0] = f2(rr[0] + rr[1], rr[0], rr[0], st[2]); // (b) Title line for f2
    if (f3(st, st, 3)) cout << 2;                        // (c) Title line for f3
    f4(st[1], st[3]);                                    // (d) Title line for f4
    char k = f4(f5(rr[1], rr), st[1]);                // (e) Title line for f5
    return 0;
}
```

Practice reading function description, making title lines

- Goal: A function to tell us which of two arrays of numbers has the greater average value.
- How many parameters are needed?
- What are they?
- What are their types?
- What sort of answer would help?