CS1428 Lab 9: Fall 2020

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Lab Section: Lab 17

Type your name at the top of this sheet. Answer the following questions and turn in this sheet before the due date. You may use the pre-lab, your book, or internet resources to assist you.

Your instructor will be available on Zoom during the usual lab hours to answer questions or in the Discussion section of Canvas outside of those hours.

Visit https://userweb.cs.txstate.edu/~js236/cs1428/c-ides-for-cs1428.html for instruction on setting up a Development Environment (like CodeBlocks) to be able to complete the coding portion.

1. (6pts) Which of the following correctly declares and initializes an array of 3 integers?

- ☐ int arr {} = [15, 3, 34];
- ☒ int arr [3] = {15, 3, 34};
- ☐ int arr [2] = {15, 3, 34};
- ☐ arr [] = [15, 3, 34];

2. (7pts) Assign the characters '*' and '&' into the character array provided:

```
char ch_arr[2];

ch_arr[0] = '*';

ch_arr[1] = '&';
```

3. (7pts) What is the output of the following code snippet?

```
const int SIZE = 3;
string arr[SIZE] = {"Rock", "and", "Roll"};
for (int i = 0; i < SIZE; i++) {
        cout << arr[0] << " ";
}
```

Rock Rock Rock

4. (50pts) Modify the provided code file to create a workout tracking program that lets the user enter (from the console) the distance they ran each day of the week. Store each value into an array of doubles named **distances**.
    - The program should calculate and display to the screen
        - The **total** distance run for the week.
        - The **average** distance run for the week.
        - The longest **distance and day**.
    - Use separate loops when inputting times, calculating the total distance, and finding the day with the longest distance run.

Sample output

```
Please enter the distance run.
Sunday      : 2
Monday      : 5
Tuesday     : 3.5
Wednesday   : 1.5
Thursday    : 6
Friday      : 8
Saturday    : 2.5

Total distance     : 28.50
Average distance : 4.07
Longest distance : 8 miles on Friday
```

Hint:
Use an array of strings to store the week days:

```
const string WEEK[] = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday",
"Friday", "Saturday"};
```

`WEEK` and `distances` are parallel arrays. When finding the shortest distance, save the index to that day in a variable rather than the actual value.

Example:

```
int index = 2;
cout << WEEK[index] << endl
     << distances[index];
```

WRITE your name in the authorship comments at the top of your program.
UPLOAD this pdf with your answers filled in and your source code as lab9.cpp to Canvas.