CS 161 Recitation

Worksheet: Week 10

1. Write the code to define a struct with type: **student**
   Each student object should contain the following information:
   a. name: a C++ string
   b. number of enrolled credits: an unsigned integer
   c. GPA: double
   d. enrolled classes: pointer to C++ string

2. Now write the code to implement a function matching the prototype below. Your code should create a student object on the heap. A pointer to this object will be returned. The name should be set to the provided value. Initialize the number of enrolled credits to 0. Set the GPA value to -1 (since there is no valid GPA yet). Set the C++ string pointer (enrolled classes) to NULL.

```
student* initialize_student(string name) {




}
```

3. Can you think of any area in program 6 where a struct might be useful? Consider your particular design.

4. Now write a function that creates a dynamically allocated array of **pointers to student objects**. The length of the array is passed as an integer. Within this function use a loop to call your **initialize_student** function to fill the array with dynamically allocated students. You can pass a name such as “Undefined” to initialize each student object.
   Use the following function prototype. Note that the **create_student_array** function will return a pointer to the first index of the array.

```
student** create_student_array(int length) {




}
```

5. Were there any specific topics on exam 2 that you found challenging? Consider asking your TA for clarification if you were unsure on a particular topic.