

# Warren Hills Regional HS

## AP Computer Science

### Summer Assignment

My objective for this summer assignment is not to overwhelm you with work, but to make sure we start the year ready to move forward from where we left off in the Intro to Computer Programming class. This assignment is especially important for students that haven't taken the Intro class. Additionally, there is an Intro review sheet on my website that links to videos that you might find helpful. However, don't worry if you don't understand all the material. We will do a quick review of the material covered in the Intro class. I will spend the necessary time helping you catch up as long as you are willing to put forth the effort.

This assignment will be collected within the first week of school, but extra time can be given for those who are struggling with the material. It is more important to me that the work is your own rather than the assignment being finished on time. (The Honor System) Collaboration is encouraged but copying is cheating. You should not be looking at other student's code unless you are done and acting as the tutor. You should also not be doing the programs together line by line. You can talk out concepts together (This is encouraged). In your header you should list anyone you collaborate with or any website you used for that program.

#### **Online Textbook**

Go to Runestone Academy online book at <https://runestone.academy/>. You will need to create an account. When it asks for the course name use JavaReview.

We have covered most of the topics in chapters 1-5 and 7 in Intro to Computer Science. We will review these topics quickly at the beginning of the year, but you are expected to know this material before the review. It is expected that you read the material that you need to review and skim the rest. The practice problems in the reading are optional. This will not be graded.

#### **Videos**

There are some good review videos on YouTube. Search "NewBoston Beginning Videos" or "NewBoston Intermediate Videos". Here is a link: <https://bit.ly/YepRay>

This is another option to review Intro to Computer Science materials. This will not be graded.

#### **Remind text messages:**

I created a Remind to let you know when I will be available during the summer. I will have one or two review sessions in August for anyone who is struggling. Text @apcs1819 to 81010 to sign up. If you have questions, you can contact me via email or Remind.

#### **Programming assignment:**

On back

### Programs: (Graded for all students – 10 points each)

The following programs can be done on paper or on the computer (preferred). The link for downloading eclipse and the keyboard class can be found on my website. Please comment and have user friendly output. All programs should have a run again option.

1. Write a program that will allow the user to enter two points and will output the distance between the two points using the distance formula. The answer should be printed out to two decimal places.
2. Write a program that will print a random phone number of the form XXX-XXX-XXXX. The first three digits can't have an 8 or 9. In addition the first number can't be a zero. The second set of numbers can't be higher than 742.
3. Write a program that asks the user to enter a sentence. Count how many lower case vowels appear in the sentence.
4. Write a program that will have the user input a height and output the following shape using nested for loops.

```
      *
     **
    ***
   ****
  *****
 *****
```

If you have any questions, please feel free to email me at [detrickd@warrenhills.org](mailto:detrickd@warrenhills.org).

### Style Format

- All variables and methods should be in CamelCase, starting with a lower case letter  
Example: numOfStudents
- All class names should be in CamelCase starting with uppercase letter
- All methods should have comments **ABOVE the method signature**
- Any difficult code (nested for loops) should have commenting within the method
- All programs should have a header with the follow  
Your Name  
Program Name  
Date  
Collaborated with: List names of all people or websites  
Description of Program
- If you collaborate with anyone, you **MUST** include their name at the top of the program.
- If you use a website for resources, you **MUST** include the link at the top of the program.
- See the attached programming format sheet for additional formatting (link on my website)

Good luck and have a great summer. -- Mr. D

My website is [www.warrenhills.org/detrickd](http://www.warrenhills.org/detrickd)