

CENG 112 – DATA STRUCTURES

Homework 1

February 26, 2015

Due Date: 10 March 2015

Programming Assignment 1.1 Averaging Exam Grades

Write a program that reads three numbers per line from the standard input and up to a maximum of 1000 lines. For each line, it should take the weighted average of these numbers with weights 0.2, 0.4, and 0.4. It should print out the averaged value on a separate line on the standard output. For example, for the input below

```
45.00 67.00 98.00
89.00 23.00 89.00
```

it should produce

```
75.00
62.60
```

Programming Assignment 1.2 Auto Capitalization

Write a program that reads standard input and capitalizes the first word and each word that follows a period, a question mark or an exclamation point. For example, for the input below

```
it is an old maxim of mine that when you have excluded the
impossible, whatever remains, however improbable, must be the
truth. now, I knew that it was not you who had brought it down,
so there only remained your niece and the maids. but if it were
the maids, why should your son allow himself to be accused in
their place? there could be no possible reason.
```

it should produce

It is an old maxim of mine that when you have excluded the impossible, whatever remains, however improbable, must be the truth. Now, I knew that it was not you who had brought it down, so there only remained your niece and the maids. But if it were the maids, why should your son allow himself to be accused in their place? There could be no possible reason.

Hint: You can use the **toupper** function to convert a character to uppercase.

Programming Assignment 1.3 Vertical Grade Histogram

Modify the code in “grades/v3/grade_hist.c” to draw the histogram bars vertically instead of horizontally.