analysis of my grade

Abby Lin

11/04/2020

```
library(dplyr)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
## filter, lag

## The following objects are masked from 'package:base':
##
## intersect, setdiff, setequal, union
library(readr)
```

import csv file

```
grades <- read.csv("grades.csv")
grades</pre>
```

```
##
                          Course.Sub.category
## 1
                             Basic Subjects 1
## 2
                             Basic Subjects 1
## 3
                             Basic Subjects 1
## 4
                             Basic Subjects 1
## 5
                             Basic Subjects 1
## 6
                             Basic Subjects 1
## 7
           International General Education 2
           International General Education 2
## 8
## 9
           International General Education 2
## 10
           International General Education 2
## 11
                     Second Foreign Language
## 12
                     Second Foreign Language
## 13
                     Second Foreign Language
## 14
                     Second Foreign Language
## 15
                     Second Foreign Language
## 16
                     Second Foreign Language
```

```
Second Foreign Language
## 17
## 18
                     Second Foreign Language
         Information Literacy and Processing
## 19
## 20
                            Health and Sports
## 21
                            Health and Sports
## 22
           Basic Major Subjects (Compulsory)
## 23
           Basic Major Subjects (Compulsory)
## 24
           Basic Major Subjects (Compulsory)
  25
           Basic Major Subjects (Compulsory)
## 26
           Basic Major Subjects (Compulsory)
##
  27
           Basic Major Subjects (Compulsory)
## 28
           Basic Major Subjects (Compulsory)
##
  29
           Basic Major Subjects (Compulsory)
## 30
           Basic Major Subjects (Compulsory)
## 31
           Basic Major Subjects (Compulsory)
## 32
           Basic Major Subjects (Compulsory)
## 33
      Basic Major Subjects (Partly Elective)
      Basic Major Subjects (Partly Elective)
     Basic Major Subjects (Partly Elective)
      Basic Major Subjects (Partly Elective)
## 37
      Basic Major Subjects (Partly Elective)
## 38
                 Major Subjects (Compulsory)
## 39
                 Major Subjects (Compulsory)
## 40
                 Major Subjects (Compulsory)
## 41
                 Major Subjects (Compulsory)
## 42
                 Major Subjects (Compulsory)
## 43
                 Major Subjects (Compulsory)
  44
                 Major Subjects (Compulsory)
## 45
                 Major Subjects (Compulsory)
                 Major Subjects (Compulsory)
## 46
## 47
                 Major Subjects (Compulsory)
## 48
                 Major Subjects (Compulsory)
## 49
                 Major Subjects (Compulsory)
## 50
                 Major Subjects (Compulsory)
## 51
                 Major Subjects (Compulsory)
## 52
                 Major Subjects (Compulsory)
## 53
                 Major Subjects (Compulsory)
## 54
                 Major Subjects (Compulsory)
## 55
          Major Subjects (Entirely Elective)
## 56
          Major Subjects (Entirely Elective)
## 57
          Major Subjects (Entirely Elective)
## 58
          Major Subjects (Entirely Elective)
## 59
          Major Subjects (Entirely Elective)
## 60
          Major Subjects (Entirely Elective)
## 61
          Major Subjects (Entirely Elective)
## 62
          Major Subjects (Entirely Elective)
## 63
          Major Subjects (Entirely Elective)
## 64
          Major Subjects (Entirely Elective)
## 65
          Major Subjects (Entirely Elective)
## 66
          Major Subjects (Entirely Elective)
## 67
          Major Subjects (Entirely Elective)
## 68
          Major Subjects (Entirely Elective)
## 69
          Major Subjects (Entirely Elective)
## 70
          Major Subjects (Entirely Elective)
```

##	71	Major Subjects (Entirely Elective)		
##		Course.Name	${\tt Credits}$	Year.Completed
##	1	Academic Writing I	2	2017
##	2	Critical Thinking Skills	2	2017
##	3	Presentation Skills	2	2017
##		Computers in Language Learning	2	2017
##		Second Language Learning with Online Resources	2	2018
##		Science and Society	2	2017
##		International Communication Seminar (Japanese) 103	2	2017
##		International Communication Seminar (Japanese) 203	2	2018
##		International Communication Seminar (Japanese) 303	2	2018
		International Communication Seminar (Japanese) 403	2	2019 2017
##		Japanese Language 101	1	2017
##		Japanese Language 102 Japanese Language 201	1	2017
##		Japanese Language 202	1	2018
##		Japanese Language 301	1	2018
##		Japanese Language 302	1	2018
##		Japanese Language 401	1	2019
##		Japanese Language 402	1	2019
##		Information Literacy	2	2017
##	20	Health & Sports 1	1	2017
##	21	Health & Sports 2	1	2018
##	22	Introductory Biology 1	2	2017
##	23	Introductory Chemistry 1	2	2017
##	24	Introductory Physics 1	2	2017
##	25	Mathematics 1	2	2017
##	26	Basic Biology Experiments	1	2018
##	27	Basic Physics Experiments	1	2018
##	28	Introductory Biology 2	2	2018
##		Introductory Chemistry 2	2	2018
##		Introductory Physics 2	2	2018
##		Mathematics 2	2	2018
##		Introductory Chemistry Experiments	1	2018
##		Exercise Session (Introductory Biology 1)	2	2017
##	34	Exercise Session (Introductory Biology 2)	2 2	2018 2017
		Exercise Session (Introductory Chemistry 1) Exercise Session (Introductory Chemistry 2)	_	2017
## ##		Exercise Session (Mathematics)	2 2	2017
##		Combined Major Basic Seminar 1	1	2017
##		General Guidelines for Safety in the Laboratory	1	2018
##		Biochemistry 1	2	2019
##		Bioinformatics	2	2018
##	42	Cell Biology 1	2	2018
##	43	Organic Chemistry 1	2	2018
##	44	Physical Chemistry 1	2	2018
##	45	Chemistry & Biology Experiments 1	3	2019
##	46	Exercise Session (Bioinformatics)	2	2018
##	47	Exercise Session (Biochemistry 1)	2	2019
##	48	Exercise Session (Cell Biology 1)	2	2018
##		Exercise Session (Organic Chemistry 1)	2	2018
##		Exercise Session (Physical Chemistry 1)	2	2018
##		Analytical Chemistry 1	1	2018
##	52	Exercise Session(Analytical Chemistry 1)	1	2018

```
## 53
                                     Inorganic Chemistry 1
                                                                                2018
## 54
                  Exercise Session(Inorganic Chemistry 1)
                                                                                2018
## 55
                           Combined Major Basic Seminar 2
                                                                   1
                                                                                2018
## 56
                                                                   2
                                                                                2019
                                            Cell Biology 2
## 57
                                        Molecular Genetics
                                                                   2
                                                                                2019
## 58
                                       Organic Chemistry 2
                                                                   2
                                                                               2019
## 59
                        Chemistry & Biology Experiments 2
                                                                   3
                                                                                2019
                                       Organic Chemistry 3
## 60
                                                                                2019
                                                                   2
## 61
                           Combined Major Honor Seminar 4
                                                                   1
                                                                                2019
## 62
                           Combined Major Honor Seminar 5
                                                                                2019
                                                                   1
## 63
                                 Marine Biology Field Work
                                                                   2
                                                                                2018
                    Exercise Session (Molecular Genetics)
                                                                   2
## 64
                                                                                2019
                        Exercise Session (Cell Biology 2)
                                                                   2
## 65
                                                                                2019
## 66
                   Exercise Session (Organic Chemistry 2)
                                                                   2
                                                                                2019
## 67
                   Exercise Session (Organic Chemistry 3)
                                                                   2
                                                                                2019
## 68
                                    Analytical Chemistry 2
                                                                   1
                                                                                2019
## 69
                 Exercise Session(Analytical Chemistry 2)
                                                                                2019
                                                                   1
## 70
                                    Analytical Chemistry 3
                                                                                2019
## 71
                Exercise Session(Analytical Chemistry 3)
                                                                                2019
      Semester.Completed grade.in.words
##
## 1
             Winter Term
## 2
             Winter Term
## 3
             Winter Term
                                        S
## 4
             Winter Term
                                        S
## 5
             Summer Term
                                        Α
## 6
             Winter Term
                                        S
## 7
             Winter Term
                                        S
## 8
             Summer Term
                                        S
## 9
             Winter Term
                                        S
             Summer Term
## 10
                                        Α
             Winter Term
## 11
                                        S
## 12
             Winter Term
                                        S
## 13
             Summer Term
                                        S
## 14
             Summer Term
                                        S
             Winter Term
                                        S
## 15
## 16
             Winter Term
                                        S
## 17
             Summer Term
                                        Α
## 18
             Summer Term
                                        Α
             Winter Term
## 19
                                        S
## 20
             Winter Term
                                        S
## 21
             Summer Term
                                        S
             Winter Term
## 22
                                        S
## 23
             Winter Term
                                        S
## 24
             Winter Term
                                        S
## 25
             Winter Term
                                        Α
             Summer Term
## 26
                                        S
## 27
             Summer Term
                                        S
## 28
             Summer Term
                                        S
## 29
             Summer Term
                                        S
## 30
             Summer Term
                                        S
## 31
             Summer Term
                                        S
## 32
             Spring Term
                                        S
             Winter Term
## 33
                                        S
             Summer Term
                                        S
## 34
```

```
## 35
             Winter Term
                                        S
## 36
             Summer Term
                                        Α
## 37
             Winter Term
                                        S
## 38
             Winter Term
                                        Α
## 39
             Summer Term
                                        S
## 40
             Summer Term
                                        S
## 41
             Winter Term
                                        S
## 42
             Winter Term
                                        S
## 43
             Winter Term
                                        S
## 44
             Winter Term
                                        S
## 45
             Summer Term
                                        Α
## 46
             Winter Term
                                        S
## 47
             Summer Term
                                        S
                                        S
## 48
             Winter Term
## 49
             Winter Term
                                        S
             Winter Term
## 50
                                        S
## 51
             Winter Term
                                        S
## 52
                                        S
             Winter Term
## 53
             Winter Term
                                        S
## 54
             Winter Term
                                        S
## 55
             Summer Term
                                        S
## 56
             Summer Term
                                        S
## 57
             Winter Term
                                        S
## 58
             Summer Term
                                        S
             Winter Term
## 59
                                        Α
## 60
             Winter Term
                                        S
## 61
             Summer Term
                                        S
## 62
             Winter Term
                                        Α
## 63
             Summer Term
                                        Α
## 64
             Winter Term
                                        S
             Summer Term
## 65
                                        S
## 66
             Summer Term
                                        S
## 67
             Winter Term
                                        S
## 68
             Summer Term
                                        S
             Spring Term
                                        S
## 69
             Winter Term
## 70
                                        S
## 71
             Winter Term
                                        S
```

add subject GPA column

```
grades.s <- grades%>%
  filter(grade.in.words == "S")%>%
  mutate(sub_gpa = 4)
grades.a <- grades%>%
  filter(grade.in.words == "A")%>%
  mutate(sub_gpa = 3)
grades <- grades.s%>%
  bind_rows(grades.a)
```

add total gpa column

```
grades <- grades%>%
  mutate(tol_gpa = sub_gpa * Credits)
grades
```

```
Course.Sub.category
## 1
                             Basic Subjects 1
## 2
                             Basic Subjects 1
## 3
                             Basic Subjects 1
## 4
                             Basic Subjects 1
## 5
           International General Education 2
## 6
           International General Education 2
## 7
           International General Education 2
## 8
                     Second Foreign Language
## 9
                     Second Foreign Language
## 10
                     Second Foreign Language
## 11
                     Second Foreign Language
## 12
                     Second Foreign Language
## 13
                     Second Foreign Language
## 14
         Information Literacy and Processing
## 15
                            Health and Sports
## 16
                            Health and Sports
## 17
           Basic Major Subjects (Compulsory)
## 18
           Basic Major Subjects (Compulsory)
## 19
           Basic Major Subjects (Compulsory)
## 20
           Basic Major Subjects (Compulsory)
## 21
           Basic Major Subjects (Compulsory)
## 22
           Basic Major Subjects (Compulsory)
## 23
           Basic Major Subjects (Compulsory)
## 24
           Basic Major Subjects (Compulsory)
## 25
           Basic Major Subjects (Compulsory)
           Basic Major Subjects (Compulsory)
## 27 Basic Major Subjects (Partly Elective)
      Basic Major Subjects (Partly Elective)
  29 Basic Major Subjects (Partly Elective)
  30
     Basic Major Subjects (Partly Elective)
## 31
                 Major Subjects (Compulsory)
## 32
                 Major Subjects (Compulsory)
## 33
                 Major Subjects (Compulsory)
## 34
                 Major Subjects (Compulsory)
## 35
                 Major Subjects (Compulsory)
## 36
                 Major Subjects (Compulsory)
## 37
                 Major Subjects (Compulsory)
## 38
                 Major Subjects (Compulsory)
## 39
                 Major Subjects (Compulsory)
## 40
                 Major Subjects (Compulsory)
## 41
                 Major Subjects (Compulsory)
## 42
                 Major Subjects (Compulsory)
## 43
                 Major Subjects (Compulsory)
## 44
                 Major Subjects (Compulsory)
## 45
                 Major Subjects (Compulsory)
## 46
          Major Subjects (Entirely Elective)
```

```
## 47
          Major Subjects (Entirely Elective)
## 48
          Major Subjects (Entirely Elective)
          Major Subjects (Entirely Elective)
## 49
## 50
          Major Subjects (Entirely Elective)
## 51
          Major Subjects (Entirely Elective)
## 52
          Major Subjects (Entirely Elective)
## 53
          Major Subjects (Entirely Elective)
## 54
          Major Subjects (Entirely Elective)
## 55
          Major Subjects (Entirely Elective)
## 56
          Major Subjects (Entirely Elective)
## 57
          Major Subjects (Entirely Elective)
## 58
          Major Subjects (Entirely Elective)
## 59
          Major Subjects (Entirely Elective)
## 60
                             Basic Subjects 1
## 61
                             Basic Subjects 1
## 62
           International General Education 2
## 63
                      Second Foreign Language
## 64
                      Second Foreign Language
##
  65
           Basic Major Subjects (Compulsory)
   66
      Basic Major Subjects (Partly Elective)
##
  67
                  Major Subjects (Compulsory)
## 68
                  Major Subjects (Compulsory)
## 69
          Major Subjects (Entirely Elective)
          Major Subjects (Entirely Elective)
## 70
## 71
          Major Subjects (Entirely Elective)
                                               Course. Name Credits Year. Completed
## 1
                                        Academic Writing I
                                                                  2
                                                                               2017
## 2
                                                                  2
                                       Presentation Skills
                                                                               2017
                                                                  2
## 3
                                                                               2017
                           Computers in Language Learning
## 4
                                       Science and Society
                                                                  2
                                                                               2017
## 5
      International Communication Seminar (Japanese) 103
                                                                  2
                                                                               2017
      International Communication Seminar (Japanese) 203
                                                                  2
                                                                               2018
                                                                  2
##
      International Communication Seminar (Japanese) 303
                                                                               2018
## 8
                                                                               2017
                                     Japanese Language 101
                                                                  1
## 9
                                     Japanese Language 102
                                                                               2017
## 10
                                     Japanese Language 201
                                                                  1
                                                                               2018
## 11
                                     Japanese Language 202
                                                                               2018
## 12
                                     Japanese Language 301
                                                                               2018
                                                                  1
                                     Japanese Language 302
## 13
                                                                               2018
## 14
                                                                  2
                                                                               2017
                                     Information Literacy
## 15
                                                                               2017
                                         Health & Sports 1
## 16
                                         Health & Sports 2
                                                                  1
                                                                               2018
## 17
                                    Introductory Biology 1
                                                                  2
                                                                               2017
                                                                  2
## 18
                                 Introductory Chemistry 1
                                                                               2017
                                                                  2
## 19
                                    Introductory Physics 1
                                                                               2017
## 20
                                                                               2018
                                Basic Biology Experiments
                                                                  1
## 21
                                Basic Physics Experiments
                                                                  1
                                                                               2018
                                                                  2
## 22
                                    Introductory Biology 2
                                                                               2018
## 23
                                 Introductory Chemistry 2
                                                                  2
                                                                               2018
                                                                  2
## 24
                                    Introductory Physics 2
                                                                               2018
## 25
                                                                  2
                                             Mathematics 2
                                                                               2018
## 26
                       Introductory Chemistry Experiments
                                                                  1
                                                                               2018
## 27
               Exercise Session (Introductory Biology 1)
                                                                  2
                                                                               2017
## 28
               Exercise Session (Introductory Biology 2)
                                                                               2018
```

```
## 29
             Exercise Session (Introductory Chemistry 1)
                                                                   2
                                                                                2017
                           Exercise Session (Mathematics)
                                                                                2017
## 30
                                                                   2
## 31
         General Guidelines for Safety in the Laboratory
                                                                   1
                                                                                2018
                                                                   2
## 32
                                             Biochemistry 1
                                                                                2019
##
  33
                                             Bioinformatics
                                                                   2
                                                                                2018
## 34
                                                                   2
                                             Cell Biology 1
                                                                                2018
## 35
                                                                   2
                                       Organic Chemistry 1
                                                                                2018
                                                                                2018
## 36
                                      Physical Chemistry 1
                                                                   2
##
  37
                        Exercise Session (Bioinformatics)
                                                                   2
                                                                                2018
                                                                   2
##
  38
                        Exercise Session (Biochemistry 1)
                                                                                2019
  39
                        Exercise Session (Cell Biology 1)
                                                                   2
                                                                                2018
                                                                   2
                                                                                2018
## 40
                   Exercise Session (Organic Chemistry 1)
##
  41
                  Exercise Session (Physical Chemistry 1)
                                                                   2
                                                                                2018
## 42
                                    Analytical Chemistry 1
                                                                                2018
## 43
                 Exercise Session(Analytical Chemistry 1)
                                                                   1
                                                                                2018
## 44
                                     Inorganic Chemistry 1
                                                                                2018
## 45
                  Exercise Session(Inorganic Chemistry 1)
                                                                                2018
                                                                   1
##
  46
                           Combined Major Basic Seminar 2
                                                                                2018
## 47
                                                                   2
                                            Cell Biology 2
                                                                                2019
## 48
                                        Molecular Genetics
                                                                   2
                                                                                2019
## 49
                                       Organic Chemistry 2
                                                                   2
                                                                                2019
## 50
                                                                   2
                                       Organic Chemistry 3
                                                                                2019
                            Combined Major Honor Seminar 4
## 51
                                                                                2019
                                                                   1
                    Exercise Session (Molecular Genetics)
                                                                   2
## 52
                                                                                2019
                                                                   2
## 53
                        Exercise Session (Cell Biology 2)
                                                                                2019
  54
                   Exercise Session (Organic Chemistry 2)
                                                                   2
                                                                                2019
## 55
                   Exercise Session (Organic Chemistry 3)
                                                                   2
                                                                                2019
##
   56
                                    Analytical Chemistry 2
                                                                   1
                                                                                2019
## 57
                 Exercise Session(Analytical Chemistry 2)
                                                                   1
                                                                                2019
                                    Analytical Chemistry 3
## 58
                                                                                2019
                                                                   1
## 59
                 Exercise Session(Analytical Chemistry 3)
                                                                   1
                                                                                2019
## 60
                                  Critical Thinking Skills
                                                                   2
                                                                                2017
                                                                   2
##
          Second Language Learning with Online Resources
                                                                                2018
                                                                   2
      International Communication Seminar (Japanese) 403
                                                                                2019
##
  62
## 63
                                                                                2019
                                     Japanese Language 401
                                                                   1
##
  64
                                     Japanese Language 402
                                                                   1
                                                                                2019
## 65
                                              Mathematics 1
                                                                   2
                                                                                2017
## 66
             Exercise Session (Introductory Chemistry 2)
                                                                   2
                                                                                2018
  67
                            Combined Major Basic Seminar 1
                                                                                2017
##
                                                                   3
## 68
                        Chemistry & Biology Experiments 1
                                                                                2019
                                                                   3
  69
                        Chemistry & Biology Experiments 2
                                                                                2019
## 70
                                                                                2019
                            Combined Major Honor Seminar 5
                                                                   1
##
  71
                                 Marine Biology Field Work
                                                                                2018
##
      Semester.Completed grade.in.words sub_gpa tol_gpa
## 1
             Winter Term
                                        S
                                                          8
## 2
             Winter Term
                                        S
                                                 4
                                                          8
## 3
             Winter Term
                                        S
                                                 4
                                                         8
                                        S
                                                 4
                                                         8
## 4
             Winter Term
## 5
             Winter Term
                                        S
                                                 4
                                                         8
                                        S
                                                         8
## 6
             Summer Term
                                                 4
## 7
                                        S
                                                 4
                                                          8
             Winter Term
                                        S
                                                 4
                                                          4
## 8
             Winter Term
## 9
             Winter Term
                                        S
                                                 4
                                                          4
                                        S
## 10
             Summer Term
                                                 4
                                                          4
```

##	11	${\tt Summer}$	Term	S	4	4
##	12	Winter	Term	S	4	4
##	13	${\tt Winter}$	Term	S	4	4
##	14	Winter	Term	S	4	8
##	15	${\tt Winter}$	Term	S	4	4
##	16	${\tt Summer}$	Term	S	4	4
##	17	Winter	Term	S	4	8
##	18	Winter	Term	S	4	8
##	19	Winter	Term	S	4	8
##	20	${\tt Summer}$	Term	S	4	4
##	21	${\tt Summer}$	Term	S	4	4
##	22	${\tt Summer}$	Term	S	4	8
##	23	${\tt Summer}$	Term	S	4	8
##	24	${\tt Summer}$	Term	S	4	8
##	25	Summer	Term	S	4	8
##	26	Spring	Term	S	4	4
##	27	Winter	Term	S	4	8
##	28	Summer	Term	S	4	8
##	29	Winter	Term	S	4	8
##	30	Winter	Term	S	4	8
##	31	Summer	Term	S	4	4
##	32	Summer	Term	S	4	8
##	33	Winter	Term	S	4	8
##	34	Winter	Term	S	4	8
##	35	Winter	Term	S	4	8
##	36	Winter	Term	S	4	8
##	37	Winter	Term	S	4	8
##	38	Summer	Term	S	4	8
##	39	Winter	Term	S	4	8
##	40	Winter	Term	S	4	8
##	41	Winter	Term	S	4	8
##	42	Winter	Term	S	4	4
##	43	Winter	Term	S	4	4
##	44	Winter	Term	S	4	4
##	45	Winter	Term	S	4	4
##	46	Summer	Term	S	4	4
##	47	Summer	Term	S	4	8
##	48	Winter	Term	S	4	8
##	49	Summer	Term	S	4	8
##	50	Winter	Term	S	4	8
##	51	Summer	Term	S	4	4
##	52	Winter	Term	S	4	8
##	53	Summer	Term	S	4	8
##	54	Summer	Term	S	4	8
##	55	Winter	Term	S	4	8
##	56	Summer	Term	S	4	4
##	57	Spring	Term	S	4	4
##	58	Winter		S	4	4
	59	Winter		S	4	4
	60	Winter		Α	3	6
##		Summer		Α	3	6
	62	Summer		A	3	6
	63	Summer		A	3	3
	64	Summer	Term	A	3	3

```
## 65
          Winter Term
                                Α
                                       3
## 66
          Summer Term
                                Α
                                       3
                                              6
          Winter Term
                                              3
## 67
                               Α
                                       3
## 68
          Summer Term
                               Α
                                       3
                                              9
          Winter Term
                            A
A
                                              9
## 69
                                       3
                                              3
## 70
          Winter Term
                                       3
## 71
           Summer Term
                                              6
                                       3
```

calculate average gpa

```
total_points <- sum(grades$tol_gpa)
total_credits <- sum(grades$Credits)
average_gpa <- total_points / total_credits
print(paste0("My average GPA up til now is: ", average_gpa))</pre>
```

```
## [1] "My average GPA up til now is: 3.8135593220339"
```