

Import the file HW9.xlsx. The variables in this file are:

Student's First Name

Student's Last Name

Q1 – Q9 (Quizzes 10 points each) – Drop the lowest two and calculate a percentage

H1 – H14 (Homework 10 points each) – Drop the lowest two and calculate a percentage

T1-T3 (Tests are 100 points each)

Grade is based on the following:

$$\text{Total} = 0.25(T1 + T2 + T3) + 0.15 \max(\text{HW}, \text{QUIZ}) + 0.10 \min(\text{HW}, \text{QUIZ})$$

Grading criteria:

A	90-100
A-	87 - <90
B+	84-<87
B	80-<84
B-	75-<80
C+	68-<75
C	55-<68
C-	50-<55
D	40-<50
F	0-<40

Write a SAS program that determines the students' letter grade. Your output must at least have the following information:

Student name

Percentage due to quizzes, Homework, and Tests

Final numerical percentage

Final letter grade

Your output must be well presented with appropriate and meaningful labels and titles.

Note that all missing values are to be replaced by zeros.

```

options linesize=68 nonumber nodate;

/**Import Data**Nhi Vu***/
PROC IMPORT OUT = temp
DATAFILE= "\\Client\H$\Desktop\Math338\data\HW9.xlsx"
DBMS=xlsx REPLACE;
GETNAMES=YES;
RUN;

/**Create Data Set For HW9**Nhi Vu***/
data HW9;
set temp;

*Change missing value to 0;
array score(*) Q1-Q9 H1-H14 T1-T3;
do i =1 to dim (score);
    if score[i] = . then score[i] = 0;
end;

*Drop the lowest 2 and calucalate to percentage;
call sortn(of Q1-Q9);
    Q = mean(of Q3-Q9)*100/10;
call sorth(of H1-H14);
    H = mean(of H3-H14)*100/10;

Total = 0.25*(T1 + T2 + T3) + 0.15*max(H,Q) + 0.10*min(H,Q);
label First="First name"
      Last="Last name"
      Q = "Quiz (%)"
      H = "Homework (%)"
      T1= "Test 1 (%)"
      T2= "Test 2 (%)"
      T3= "Test 3 (%)"
      Total= "Final grade (%) and leter grade"
      ;
drop Q1-Q9 H1-H14 i;
run;

proc format;
picture g
90-100    = '000.00% ' ' A '
87- <90    = '00.00% ' ' A-'
84-<87     = '00.00% ' ' B+'
80-<84     = '00.00% ' ' B '
75-<80     = '00.00% ' ' B-'
68-<75     = '00.00% ' ' C+'
55-<68     = '00.00% ' ' C '
50-<55     = '00.00% ' ' C-'
40-<50     = '00.00% ' ' D '
0-<40      = '00.00% ' ' F ' ;
picture mypct (round) low-high='009.99%';
run;

```

```

proc print data=HW9 label;
format Total g.  Q  H T1-T3 mypct. ;
title "Homework 9 - The student's grade";
var First Last Q  H T1-T3 Total;
run;

```

Homework 9 - The student's grade

Obs	First name	Last name	Quiz (%)	Homework (%)	Test 1 (%)	Test 2 (%)	Test 3 (%)	Final grade (%) and letter grade
1	X1	Y1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00% A
2	X2	Y2	20.00%	7.92%	77.00%	10.00%	58.00%	40.04% D
3	X3	Y3	85.71%	83.75%	94.00%	92.00%	44.00%	78.73% B-
4	X4	Y4	41.43%	65.00%	84.00%	65.00%	98.00%	75.64% B-
5	X5	Y5	90.00%	97.08%	96.00%	83.00%	82.00%	88.81% A-
6	X6	Y6	45.71%	80.42%	62.00%	51.00%	57.00%	59.13% C
7	X7	Y7	90.00%	86.67%	57.00%	66.00%	62.00%	68.41% C+
8	X8	Y8	87.14%	81.67%	64.00%	84.00%	90.00%	80.73% B
9	X9	Y9	31.43%	31.25%	64.00%	0.00%	43.00%	34.58% F
10	X10	Y10	84.29%	53.75%	94.00%	83.00%	79.00%	82.01% B
11	X11	Y11	35.71%	40.83%	80.00%	0.00%	75.00%	48.44% D
12	X12	Y12	35.71%	5.00%	45.00%	0.00%	63.00%	32.85% F
13	X13	Y13	88.57%	90.00%	88.00%	95.00%	90.00%	90.60% A
14	X14	Y14	71.43%	73.33%	88.00%	58.00%	62.00%	70.14% C+
15	X15	Y15	20.00%	24.58%	0.00%	0.00%	46.00%	17.18% F
16	X16	Y16	77.14%	59.58%	57.00%	57.00%	37.00%	55.27% C
17	X17	Y17	42.86%	47.08%	77.00%	34.00%	43.00%	49.84% D
18	X18	Y18	11.43%	15.83%	0.00%	0.00%	89.00%	25.76% F
19	X19	Y19	68.57%	70.83%	40.00%	92.00%	74.00%	68.98% C+
20	X20	Y20	10.00%	19.17%	48.00%	0.00%	98.00%	40.37% D
21	X21	Y21	74.29%	82.92%	88.00%	81.00%	53.00%	75.36% B-
22	X22	Y22	94.29%	97.92%	93.00%	100.00%	78.00%	91.86% A
23	X23	Y23	51.43%	37.92%	62.00%	57.00%	99.00%	66.00% C
24	X24	Y24	55.71%	73.75%	78.00%	86.00%	98.00%	82.13% B
25	X25	Y25	48.57%	61.67%	58.00%	57.00%	81.00%	63.10% C
26	X26	Y26	35.71%	42.50%	44.00%	0.00%	60.00%	35.94% F
27	X27	Y27	95.71%	95.83%	98.00%	95.00%	63.00%	87.94% A-
28	X28	Y28	62.86%	65.83%	82.00%	90.00%	77.00%	78.41% B-
29	X29	Y29	10.00%	4.17%	0.00%	0.00%	0.00%	1.91% F
30	X30	Y30	14.29%	26.25%	0.00%	0.00%	0.00%	5.36% F
31	X31	Y31	57.14%	43.33%	90.00%	78.00%	96.00%	78.90% B-
32	X32	Y32	55.71%	62.50%	43.00%	28.00%	62.00%	48.19% D
33	X33	Y33	58.57%	93.33%	79.00%	37.00%	57.00%	63.10% C
34	X34	Y34	67.14%	50.00%	75.00%	48.00%	64.00%	61.82% C
35	X35	Y35	82.86%	66.25%	63.00%	59.00%	64.00%	65.55% C
36	X36	Y36	95.71%	87.08%	90.00%	100.00%	94.00%	94.06% A
37	X37	Y37	41.43%	68.33%	62.00%	82.00%	80.00%	70.39% C+
38	X38	Y38	22.86%	35.83%	46.00%	0.00%	45.00%	30.41% F
39	X39	Y39	25.71%	58.75%	37.00%	8.00%	88.00%	44.63% D
40	X40	Y40	21.43%	50.00%	43.00%	36.00%	88.00%	51.39% C-
41	X41	Y41	32.86%	20.83%	89.00%	77.00%	74.00%	67.01% C
42	X42	Y42	68.57%	79.58%	74.00%	68.00%	57.00%	68.54% C+
43	X43	Y43	91.43%	30.83%	98.00%	85.00%	77.00%	81.79% B
44	X44	Y44	91.43%	84.17%	53.00%	83.00%	89.00%	78.38% B-

45	X45	Y45	72.86%	70.83%	78.00%	68.00%	40.00%	64.51%	C
46	X46	Y46	95.71%	95.83%	99.00%	95.00%	48.00%	84.44%	B+
47	X47	Y47	71.43%	72.92%	98.00%	98.00%	88.00%	89.08%	A-
48	X48	Y48	48.57%	65.00%	81.00%	71.00%	93.00%	75.85%	B-
49	X49	Y49	70.00%	86.25%	60.00%	56.00%	62.00%	64.43%	C
50	X50	Y50	52.86%	65.83%	63.00%	47.00%	78.00%	62.16%	C