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CIS-5

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**Grade Calculator v.2.0**

**Program Features:**

* User Input:
  + Total Assignment Percentage
  + Total Quiz Percentage
  + Total Discussion Board Percentage
  + Final Exam Percentage
* Calculations:
  + Total Grade Percentage using category weights
* Opening Statement:
  + Name of program: Grade Calculator Program
  + Separator: ===============
  + Instructions/Program Notes: Enter percentages in the format of xx.xx, for example 75.69% would be entered as 75.69 – do not include the % symbol)
* Results Output:
  + Final Grade Percentage
  + Final Letter Grade

**Possible Variables:**

* Float Variables: (data type = float)
  + Assignment Total Score - assigntotal
  + Quiz Total Score - quiztotal
  + Discussion Board Total Score - disctotal
  + Final Exam Total Score - finaltotal
  + Final Total Grade Percentage – finalgrade
  + Final Letter Grade - lettergrade
* Named Constants: (data type = float)
  + Assignment Weights: ASSIGN\_WEIGHT = 0.40 (40%)
  + Discussion Board Weights: DISC\_WEIGHT = 0.10 (10%)
  + Quiz Weights: QUIZ\_WEIGHT = 0.20 (20%)
  + Final Exam Weights: FINAL\_WEIGHT = 0.30 (30%)
  + Minimum Percentage for A: MIN\_A = 90
  + Minimum Percentage for B: MIN\_B = 80
  + Minimum Percentage for C: MIN\_C = 70
  + Minimum Percentage for D: MIN\_D = 60

**Steps:**

1. Declare named constant variables: ASSIGN\_WEIGHT, DISC\_WEIGHT, QUIZ\_WEIGHT, FINAL\_WEIGHT, MIN\_A, MIN\_B, MIN\_C, MIN\_D (data type = float)(Declare them outside of the main function towards the beginning of the program
2. Declare floating point variables: assigntotal, quiztotal, disctotal, finaltotal, and finalgrade
3. Output initial program instructions/notes: (Enter percentages in the format of xx.xx, for example 75.69% would be entered as 75.69 – do not include the % symbol)
4. Prompt the user for their assignment percentage
5. Store the user’s input into the appropriate variable
6. Prompt the user for their discussion percentage
7. Store the user’s input into the appropriate variable
8. Prompt the user for their quiz percentage
9. Store the user’s input into the appropriate variable
10. Prompt the user for their final exam percentage
11. Store the user’s input into the appropriate variable
12. Perform the final course grade calculations as:
    1. finalgrade = ASSIGN\_WEIGHT \* assigntotal
    2. finalgrade = QUIZ\_WEIGHT \* quiztotal
    3. finalgrade = DISC\_WEIGHT \* disctotal
    4. finalgrade = FINAL\_WEIGHT \* finaltotal
13. Perform decisions based on final course grade to determine what letter grade to output
    1. Use if/else statements to make decisions
14. Output the results to the console