Program 1: Deliverables 1 - 3

**Problem Statement** Construct a program that calculates the course overall grade. The program must input 3 scores for each of the categories listed below except for the final examination. The maximum score for all quizzes is 20 points each, the maximum score for all homework assignments is 70 points each, the maximum score for all tests and all programming assignments is 100 points each, the maximum score for programming labs is 40 points each, and the maximum for the final examination is 120 points. You can select the scores that you use on each of these assessed items.

**Plan – Step I: Show how you would calculate the final weighted score. Show the general form of the equation and then show the actual calculation.**

myFinalHomeworkScore = homework1 + homework2 + homework3

myProgAssignFinalScore = ProgAssign1 + ProgAssign2 + ProgAssign3

myProgLabsFinalScore = progLabs1 + progLabs2 + progLabs3

myQuizFinalScore = quiz1 + quiz2 + quiz3

myTestsFinalScore = test1 + test2 + test3

myFinalExamScore = userinput

weightedHomeworkFinalScore = (myFinalHomeworkScore/maximumFinalHomeworkScore) \* 100 \* .10

weightedProgAssignFinalScore = (myProgAssignFinalScore/ maximumProgAssignFinalScore) \* 100 \* .20

weightedProgLabsFinalScore = (myProgLabsFinalScore / maximumProgLabsFinalScore) \* 100 \*.10

weightedQuizFinalScore = (myQuizFinalScore / maximumQuizFinalScore) \* 100 \* .15

weightedTestsFinalScore = (myTestsFinalScore / maximumTestsFinalScore) \* 100 \* .30

weightedFinalExamScore = (myFinalExamScore/ maximumFinalExamScore) \* 100 \* .15

weightedHomeworkFinalScore + weightedProgAssignFinalScore + weightedProgLabsFinalScore + weightedQuizFinalScore + weightedTestsFinalScore + weightedFinalExamScore = weightedFinalScore

**Plan – Step II: Sketch how you expect the program to look when it is complete and label each portion of the screen (see handout)**

Enter your three Homework Scores (with spaces in between each one):

Input of three scores per category.

Enter one final examination score

60 70 70

Enter your three Programming Assignments Score (with spaces in between each one):

65 80 96

Enter your three Programming Labs Scores (with spaces in between each one):

30 40 40

Enter your three Quiz Scores (with spaces in between each one):

20 20 20

Enter your three Test score (with spaces in between each one):

100 97 23

Enter your Final Examination Score:

110

Output final Scores all added up for each category.

Your Final Homework scores is:

200

Your Final Programming Assignment Scores is:

241

Your Final Programming Lab Scores is:

110

Your Final Quiz Scores is:

60

Your Final Test scores is:

220

Your weighted Homework Score is:

9.52

Your weighted Programming Assignment Scores is :

Output Weighted Scores and

final overall weighted score

14.27

Your weighted Programming Lab Score is:

9.17

Your weighted Quiz Score is:

15

Your weighted Test score is:

22

Your weighted Final exam score is:

13.75

You Overall Weighted Class grade is:

83.71

**Plan – Step III: Show the IPO chart for your program**

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| Homework1, homework2, homework3 | Computed final score for categories based on three inputs from user.  EX:  myFinalHomeworkScore = homework1 + homework2 + homework3 | myFinalHomeworkScore |
| progAssign1, progAssign2, progAssign3 | Computed final score for categories based on three inputs from user.  myProgAssignFinalScore = ProgAssign1 + ProgAssign2 + ProgAssign3 | myProgAssignFinalScore |
| progLabs1, progLabs2, progLabs3 | Computed final score for categories based on three inputs from user.  myProgLabsFinalScore = progLabs1 + progLabs2 + progLabs3 | myProgLabsFinalScore |
| quiz1,quiz2,quiz3 | Computed final score for categories based on three inputs from user.  myQuizFinalScore = quiz1 + quiz2 + quiz3 | myQuizFinalScore |
| test1,test2,test3 | Computed final score for categories based on three inputs from user.  myTestsFinalScore = test1 + test2 + test3 | myTestsFinalScore |
| myFinalExamScore |  |
|  | Compute final weighted score for each input.  “Weighted Category” = (“myfinalscore for specific category” / “MaximumWeightedCategoryScore) \* 100 \* “Category percentage of final grade”  Add all computed weighted scores to get final output score for class | Final overall class score |
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