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# File: Project1.py
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# Course Name: CS303E
#
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# Description of Program: A program that compute a student's semester grades based
on user's input

print()
name = str(input("Enter the student's name: "))

# the variables before the loops
hwCount = 0
projectCount = 0
examCount = 0

# Homework inputs loop, will continue until correct 3 inputs are given
print()
print("HOMEWORKS:")
while hwCount < 1:
    hw1 = int(input("  Enter HW1 grade: "))
    if hw1 < 0 or hw1 > 10:
        print("  Grade must be in range [0..10]. Try again.")
    elif 0 < hw1 <= 10:
        hw1 = hw1
        hwCount += 1
while hwCount < 2:
    hw2 = int(input("  Enter HW2 grade: "))
    if hw2 < 0 or hw2 > 10:
        print("  Grade must be in range [0..10]. Try again.")
    elif 0 < hw2 <= 10:
        hw2 = hw2
        hwCount += 1
while hwCount < 3:
    hw3 = int(input("  Enter HW3 grade: "))
    if hw3 < 0 or hw3 > 10:
        print("  Grade must be in range [0..10]. Try again.")
    elif 0 < hw3 <= 10:
        hw3 = hw3
        hwCount += 1

# Project inputs loop, will continue until correct 2 inputs are given
print()
print("PROJECTS:")
while projectCount < 1:
    project1 = int(input("  Enter Project1 grade: "))
    if project1 < 0 or project1 > 100:
        print("  Grade must be in range [0..100]. Try again.")
    elif 0 < project1 <= 100:
        project1 = project1
        projectCount += 1
while projectCount < 2:
    project2 = int(input("  Enter Project2 grade: "))
    if project2 < 0 or project2 > 100:
        print("  Grade must be in range [0..100]. Try again.")
    elif 0 < project2 <= 100:
        project2 = project2
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        projectCount += 1

# Exam inputs loop, will continue until correct 2 inputs are given
print()
print("EXAMS:")
while examCount < 1:
    exam1 = int(input("  Enter Exam1 grade: "))
    if exam1 < 0 or exam1 > 100:
        print("  Grade must be in range [0..100]. Try again.")
    elif 0 < exam1 <= 100:
        exam1 = exam1
        examCount += 1
while examCount < 2:
    exam2 = int(input("  Enter Exam2 grade: "))
    if exam2 < 0 or exam2 > 100:
        print("  Grade must be in range [0..100]. Try again.")
    elif 0 < exam2 <= 100:
        exam2 = exam2
        examCount += 1

# Average and grade calculations
hwAverage = ((hw1 + hw2 + hw3) / 3) * 10
projectAverage = (project1 + project2) / 2
examAverage = (exam1 + exam2) / 2
courseAverage = (hwAverage * 0.3) + (projectAverage * 0.3) + (examAverage * 0.4)

# Course grade statements
if 0 <= courseAverage < 60:
    courseGrade = "F"
elif 60 <= courseAverage < 70:
    courseGrade = "D"
elif 70 <= courseAverage < 80:
    courseGrade = "C"
elif 80 <= courseAverage < 90:
    courseGrade = "B"
elif 90 <= courseAverage < 100:
    courseGrade = "A"

# All of the print statements
print()
print("Grade report for: " + name)
print("  Homework average (30% of grade): " + format(round(hwAverage, 2), "1.2f"))
print("  Project average (30% of grade): " + format(round(projectAverage, 2),
"1.2f"))
print("  Exam average (40% of grade): " + format(round(examAverage, 2), "1.2f"))
print("  Student course average: " + format(round(courseAverage, 2), "1.2f"))
print("  Course grade (CS303E: Spring, 2021): " + courseGrade)
print()
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