

CPAN 214 – High-Level Programming Languages - Lab 5

Task: Student grades

1. Create a class name 'Student'. The student class should contain the student_id, name, age, school_name, academic_year, and courses.
2. Courses is a nested dictionary containing all the student's registered courses. For each registered course, the nested dictionary should indicate the status (i.e. completed or ongoing), course_grade (value of 0-100). Structure the nested dictionary so you can retrieve a specific course based on the course code.
3. Create a dictionary with a list of 5 students, each containing a different set of courses. Structure dictionary so you can quickly retrieve information from a student based on their student_id
4. On program start ask the user if they would like to:
 1. Display a list of all students
 - This operation will print a list of student's id and name
 2. View all information on a specific student, ask for id if selected:
 - This operation will print the student's information (id, name, age, school, academic year)
 - After printing student information, program will ask user if they would like to perform the following:
 - A. View all registered courses
 - This operation will list all registered courses code and status
 - B. View average grade of completed courses
 - This operation will calculate and print the students average mark for courses completed
 - C. View average grade of ongoing courses
 - This operation will calculate and print the students average mark for non completed courses
 - D. View grade of specific course, ask the user for the course code

- This operation will print the course code, status, and course grade.
- E. Add/Update a registered course
 - Ask the user for course code, status, and grade
 - Add the registered course if not already included in list of courses
 - If class already in registered list, ask user if they would like to update the course information, update if yes.
 - Display the list of registered courses and status at the end of the operation
 - F. Return to main menu
3. Exit Program
5. After each operation re-display the menu options again (excluding Operation 3 and F)
 6. Include error handling if user id or course code does not exist
 7. User proper functions and class methods in your program
 1. Define functions for each operation
 2. Define a method in the class to help calculate the average grade
 3. Define a method in the class to check if class already in list of registered courses.
 8. Test your program - ensuring you test all operations and error handling (both incorrect user id and course code, course already)

Submit the following files:

- A Python File (.py or .ipynb) of your program
- PDF/Images (.pdf or .png) of the output of your program.

Weight: 6% of final grade

Rubric	Weightage
Functions/Methods	20
Decision Structures	20
Classes/Objects	20
Dictionary Structures	20
Program Testing	20
Total	100

CPAN 214 – High Level Programming Languages – Alex Dela Cruz