

# Object Oriented Programming LAB – BSDSF22

(Morning and Afternoon)

## Lab 12 – 15-12-2023

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### TASK

Read and understand the code provided in books.py file.

Then create a similar screen for display the CGPA calculations based on percentage marks of courses following courses and the grading policy:

OOP	3 credit hours
OOP Lab	1 credit hours
English	2 credit hours
IST	2 credit hours

80 percent marks or above	A	4 points
65 percent marks or above upto 79	B	3 points
50 percent marks or above upto 64	C	1 points
Below 50 percent marks	F	0 points

If you are not aware of CGPA calculation formula, you may go for OPM (the overall percentage marks) but as weighted average:

$$\text{sum of credit hours times percent marks of each subject} / \text{sum of credit hours}$$

### OPTIONAL TASK

Use 3 - layered (Data Access, Business Logic, Presentation layers plus Business Object) approach to solve task above. You may read and write data in text files using full file read write operations or in SQLite db. Business logic contains the CGPA calculations on saving and loading data. For presentation you may use CLI (text/command line) or GUI based interface.