Python

PYTHON DATABASE PROJECT
Submitted by

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Section: A

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Stream: **CSE**

Subject: Programming for Problem Solving with Python

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Department: Basic Science and Humanities

Under the supervision of

Dr. Swarnendu Ghosh

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PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE FIRST SEMESTER

DEPARTMENT OF BASIC SCIENCE AND HUMANITITESINSTITUTE OF ENGINEERING AND MANAGEMENT, KOLKATA

CERTIFICATE OF RECOMMENDATION

We hereby recommend that the project prepared under our supervision by Karan Kumar entitled Student Examination Portal; be accepted in partial fulfillment of the requirements for the degree of partial fulfillment of the first semester.

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      Head of the Department   Project Supervisor
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Introduction

In this specific project Python language has been used which has powerful features for database programming. Python supports various databases like SQLite, MySQL, Oracle, Sybase, PostgreSQL, etc. It also supports Data Definition Language (DDL), Data Manipulation Language (DML) and Data Query Statements. The Python standard for database interfaces is the Python DBAPI. Most Python database interfaces adhere to this standard.

Objective

The objective of this project is to display the function of databases in Python by creating and operating on 4 different databases which will store details of students, courses, batches and departments of a college and work as a student portal.

Organization of the Project

The project has quite a few segments but we have broadly divided it into 5 main segments:

• student.py: This specific code is to perform functions regarding the information of the student which include: createStudent, updateStudent, removeStudent and reportCard.

• course.py: This specific code is to perform functions regarding courses which include: createCourse, checkPerformance, courseStatistics.

• batch.py: This specific code is to perform functions regarding batches which include: createBatch, viewStudents, viewCourses, viewPerformance, pieChart.

• department.py: This specific code is to perform functions regarding department: createDepartment, viewBatches, viewPerformanceD, linePlot.

• examination.py: This specific code is used to perform functions regarding examination: enterMarks, viewPerformanceE, scatterPlot.

Apart from this we have main.py to run all the above-mentioned functions.

Database Descriptions

There are 4 CSV files that act as databases in this project. They are student.csv, course.csv, batch.csv, department.csv.

Database Samples

student.csv

course.csv

batch.csv

department.csv

Data Flow and E-R Diagrams

Programs

rootDir/main.py

```
while (True):
 print ("Press 1 to do student operations")
 print ("Press 2 to do course operations")
 print ("Press 3 to do batch operations")
 print ("Press 4 to do department operations")
 print ("Press 5 to do examination operations")
 print ("Press 0 to stop")
 x = int (input ("Enter your choice: "))
 if (x == 0):
 break
 elif (x == 1):
 from student import *
 while (True):
 print ("Press 1 to create a student")
 print ("Press 2 to update a student's details")
 print ("Press 3 to remove a student")
 print ("Press 4 to generate report card of a student")
 print ("Press 0 to return to main menu")
 y = int (input ("Enter your choice: "))
 if (y == 0):
 break
 elif (y == 1):
 student_id = input ("Enter student ID: ")
 student_name = input ("Enter student name: ")
 createStudent (student_id, student_name)
 elif (y == 2):
 ostudent_id = input ("Enter old student ID: ")
 updateStudent(ostudent_id)
 elif (y == 3):
 student_id = input ("Enter student ID: ")
 removeStudent(student_id)
 elif (y == 4):
 student_id = input ("Enter student ID: ")
 reportCard(student_id)
```