(DEEMED TO BE UNIVERSITY)

SKILLING WORKBOOK

19TS2201S Python Full Stack Development

PFSD TEAM

KLUNIVERSITY | 19TS2201S PYTHON FULL STACK DEVELOPEMNT

2020-21 EVEN SEMESTER SKILLING CONTINUOUS EVALUATION

Week No	Date	Weekly Task	Observation (10M)	Logic (10M)	Execution (10M)	Result (10M)	Analysis (5M)	Viva Voce (5M)	Total (50M)	Faculty Signature
1										
2										
3										
4										
5										
6										
7										
8										

Week No	Date	Weekly Task	Observation (10M)	Logic (10M)	Execution (10M)	Result (10M)	Analysis (5M)	Viva Voce (5M)	Total (50M)	Faculty Signature
9										
10										
11										
12										
13										

Week-1

1. Create a Python script using OOP concepts with following criteria:

a) Create a class Name Students with following attributes:

Student ID, Student First Name, Student Last Name, Course, Year, GPA, University, Email, Mobile.

Create at least 3 instances for the above class.

b) Use appropriate types of Attributes.

c) Use appropriate types of Properties.

d) Use appropriate types of Methods.

e) Create Email based on First Name and Last Name of the Student.

(NOTE: If we modify First Name or Last Name it has to reflect in Email.)

f) Find the Count whenever we create a new instance for the above mentioned class.

2) Create an BankAccount, MobileBankAccount and InternetBankAccount classes with appropriate Attributes, properties and methods.

a) Use Inheritance among the above-mentioned class.

b) Demonstrate super() mechanism.

(NOTE: Use super() at both __init__() level and methods level.)

c) Work with __name__ or __main__ concept.

Week-2

1) Create a Attendance.csv file with following fields:

ID, Name, Year, Section, CourseCode, Subject, NumberOfClassesConducted, NumberOfClassesPresent, NumberOfClassesAbsent

a) Store and retrieve the csv values using csv module.

(NOTE: At least 15 records in csv file considered as input.)

b) Access specific Student using ID and name.

c) Calculate the Percentage of individual Student and Add it to the along with old fields and store in new "FinalAttendance.csv".

d) Find the Students with less than 60% attendance from the file mentioned in "above csv file".

(NOTE: Use CSV module functionalities)

2) i) Create and work with JSON file and dattetime "timedelta" attributes.

ii) Create a Python Script to copy similar file extension files in a directory based on their category or extensions.

Example:

Enter File Name: D:\Resumes\btech.pdf

Enter Directory Name: C:\PDF Docs\

File "btech.pdf" is copied in "C:\PDF Docs\" Successfully.

(NOTE: Physical C:\PDF Docs\btech.pdf MUST exist.)

Week-3

1) Create a Python Script, use MySQL Database CRUD operations using Classes:

   a) Create "Hospital" data base and Doctor, Patient and Medicine with appropriate fields and apply CRUD operations using Python script.

2) Apply PyTest cases on above mentioned database program (1st Question).

Project-1

The Gift Shop Management Application

Description:

The main feature of the application is to manage the records of Shops and its shop Gifts. The admin manages the Gift sales, Gift stocks and Gift sales history. The user will select the Gift based on occasion (Like Birthday, Marriage, Teachers Day etc..). The application also provide the Gift Dashboard suggest the top gifts based on occasion for Quick selection. Reports like sales reports, bestselling gifts to pre stock the items for the Shop Owner.

Number of Modules:

1. Stock Manager
2. Shop owner
3. Customer Module

Implementation Details:

- Project duration: 3 weeks
- Language: Python 3.x.x
- Frameworks: Flask
- IDEs: PyCharm
- Editors: Sublime Text 3.x

In the stock manager module, he logins with his credentials and has a dash board with different options like update the stock details, approving the stock requests, updating the status of the requests, Email/SMS options.

In the shop owner module, he logins with his credentials and then he will get dash board with different option to see the gift items, requesting for new stock, sending feedback of the customers/suggestions, email/SMS options.

In the customer module, he must have a dash to order for gift items, finding the status of the order, he must get some suggestions in home page customer like different events like birthday, marriage, marriage anniversary…etc.

Platform Requirements:

Hardware/ Software	Hardware / Software element	Specification /version
Hardware	Processor	Intel core2duo
	RAM	4 GB
	Hard Disk	100 GB
Software	OS	Windows
	Python	Python3.x
	Database	Sqlite3
	Server	Flask
	IDE	PyCharm

Week-4

Task-1: Understanding the problem, Identify all the Functional and non-Function Requirements.

Task-2: Develop the Front-End pages with Bootstrap

Task-3: Add few more details to the homepage like task bar which navigates to all the different activities, modules contact info.

Week-5

The Gift Shop Management Application (Cont.)

Task-1: Add validation to the Frontend components

Task-2: Implementation of the project with Python 3.0 + Flask + SQL Alchemy + Sublime Text Editor with the following features Template Inheritance, DB Connectivity

Task-3: adding Session Management

Week-6

The Gift Shop Management Application (Cont.)

Task-1: Adding the database connectivity Models (DB) to developed pages.

Task-2: Security (with encryption), Any additional features as required

Task-3: Debugging, Testing and Fixing Errors, modify application based on different inputs and outputs

Task-4: Deployment of the application, Documentation

Project -2
Hospital Management system

1.0 Overview:

The main goal of this project is to computerize the Front Office Management of Hospital to develop software which is user friendly simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The main function of the system is register and store patient details and doctor details and retrieve these details as and when required, and also to manipulate these details meaningfully. System input contains patient details, diagnosis details, while system output is to get these details on to the screen. The Hospital Management System can be entered using a username and password. It is accessible either by an administrator or receptionist. Only they can add data into the database. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast. The entire project mainly consists of 7 modules, which are

- ❖ Admin module
- ❖ User module (patient)
- ❖ Doctor module
- ❖ Nurse module

- ❖ Pharmacist module
- ❖ Laboratories module
- ❖ Accountant module

1. **Admin module:**
    - Manage department of hospitals, user, doctor, nurse, pharmacist, laboratories accounts.
    - Watch appointment of doctors
    - Watch transaction reports of patient payment
    - Bed, ward, cabin status
    - watch blood bank report
    - watch medicine status of hospital stock
    - watch operation report
    - watch birth report
    - watch diagnosis report
    - watch death report
2. **User module (patient):**
    - View appointment list and status with doctors
    - View prescription details
    - View medication from doctor
    - View doctor list
    - View blood bank status
    - View operation history
    - View admit history. like bed, ward-ICU etc
    - Manage own profile
3. **Doctor module:**
    - Manage patient. account opening and updating
    - Create, manage appointment with patient
    - Create prescription for patient
    - Provide medication for patients
    - Issue for operation of patients and creates operation report
    - Manage own profile
4. **Nurse module:**
    - Manage patient. account opening and updating
    - Allot bed, ward, cabin for patients
    - Provide medication according to patient prescription
    - Manage blood bank and update status
    - Keep record of patient operation, baby born and death of patient
    - Manage own profile
5. **Pharmacist module:**
    - Maintain medicine
    - Keep records of hospitals stock medicines and status
    - Manage medicine categories
    - Watch prescription of patient
    - Provide medication to prescriptions
6. **Laboratories module:**
    - Watch prescription list
    - Upload diagnostic report

- Preview of report files. like X-ray images, CT scan, MRI reports
- Manage own profile

7. **Accountant module:**
   - Create invoice for payment
   - Order invoice to patient
   - Take cash payment
   - Watch payment history of patients
   - Manage own profile

2.0 Platform requirements

Hardware/ Software	Hardware / Software element	Specification /version
Hardware	Processor	Intel core2duo
	RAM	4 GB
	Hard Disk	100 GB
Software	OS	Windows
	Language	Python 3.x
	Database	MySQL 5.x
	Server	Django 3.x
	IDE	PyCharm

Week-7:

Task-1: Create a professional webpage using HTML, CSS, JS which displays homepage of our application with a clear explanation of goal of the Project, how the Project works, functionalities, benefits.

Task-2: Add few more details to the homepage like task bar which navigates to all the different modules in the project.

Task-3: Design Admin module. Manage department of hospitals, user, doctor, nurse, pharmacist, laboratories accounts.

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Task-4: Under admin module add the following functionalities: watch appointment of doctors, watch transaction reports of patient payment, Bed, ward, cabin status, watch blood bank report, watch medicine status of hospital stock, watch operation report, watch birth report, watch diagnosis report, and watch death report

Week-8

Hospital Management System (Cont...)

Task-1: Design user (patient) module and add functionalities such as View appointment list and status with doctors, View prescription details, View medication from doctor, View doctor list, etc.

Task-2: Design doctor module and add the functionalities such as Manage patient, account opening and updating, create, manage appointment with patient, create prescription for patient, Provide medication for patients, etc.

Task-3: Design nurse module and add the functionalities such as Manage patient account opening and updating, allot bed, ward, cabin for patients, provide medication according to patient prescription, Manage blood bank and update status, etc.

Week-9

Hospital Management System (Cont...)

Task-1: Design pharmacist module and add the functionalities such as Maintain medicine, keep records of hospitals stock medicines and status, manage medicine categories, watch prescription of patient, Provide medication to prescriptions, etc.

Task-2: Design laboratories module add the functionalities such as Watch prescription list, Upload diagnostic report, Preview of report files. Like X-ray images, CT scan, MRI reports, and Manage own profile.

Task-3: Design accountant module add the functionalities such as Create invoice for payment and Order invoice to patient, take cash payment, watch payment history of patients, and Manage own profile

Task-4: Deploy the project in HEROKU domain and Test the application.

Project-3

Library Management System

1.0 Overview:

The main goal of this project is to address the problems faced using the existing manual system of managing a library. The new system will monitor the daily activities carried out in library.

This system will automate activities such as: acquisition of new books, storage of book records, updating book records, book searching mechanism, borrowing-returning of books, and report generation.

The new system was developed to solve the problems that occur in terms of the average time to process the activities mentioned above, which will allow librarians and library users to maximize time efficiently.

This system will also provide a user-friendly interface, it will give users access to library materials in the most interactive way and with no time to waste. It will also provide the librarians effective ways of managing library materials and also ensure that these materials are secured by ensuring database security and integrity.

The following are the modules:

Admin module

Store and retrieve records of all transactions carried out by users in the library and monitor how documents are been borrowed.

User module

Ensuring that only privileged users can borrow books. Different types of users are librarian, staff, and students

Browsing Module

The System must allow users to search items based on ISBN, book title, category or publisher by keywords.

Reports module

Enabling the administrator to create reports on regular basis.

Platform Requirements:

Hardware/ Software	**Hardware / Software element**	**Specification /version**
Hardware	Processor	Intel core2duo
	RAM	4 GB
	Hard Disk	100 GB
Software	OS	Windows
	Python	Python3.x
	Database	Sqlite3
	Server	DJANGO 3.x
	IDE	PyCharm

Week-10

Task 1: Setting up Django framework, creating virtual environment and Processing basic commands.

Task 2: Create an app and Working with admin consol.

Week-11

Task1: Create Views, URL Mapping, Template System with necessary page views.

Task2: Create database and tables which are required for the project.

Week-12

Task 1: Use form validation for getting the data from user and to store it in database and retrieve the same to display it.

Task 2: Use Static folder for CSS files and Media for storing images for the project.

Task 3: Send email to the corresponding user about their book taken date and return data.

Week-1

Writing space for the Problem:(For Student’s use only)

Writing space for the Problem:(For Student’s use only)

Writing space for the Problem:(For Student's use only)

(For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-2

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student's use only)

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Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-3

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Comment of the Evaluator (if Any)	Evaluator’s Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-4

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student’s use only)

(For Evaluator’s use only)

Comment of the Evaluator (if Any)

Evaluator’s Observation

Marks Secured: _______ out of ________

Full Name of the Evaluator:

Signature of the Evaluator   Date of Evaluation:

WEEK-5

Writing space for the Problem:(For Student’s use only)

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(For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-6

Writing space for the Problem:(For Student’s use only)

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(For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-7

Writing space for the Problem:(For Student's use only)

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Writing space for the Problem:(For Student’s use only)

(For Evaluator’s use only)

Comment of the Evaluator (if Any)

Evaluator’s Observation

Marks Secured: _______ out of ________

Full Name of the Evaluator:

Signature of the Evaluator Date of Evaluation:

WEEK-8

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student's use only)

(For Evaluator's use only)

Comment of the Evaluator (if Any)

Evaluator's Observation

Marks Secured: _______ out of ________

Full Name of the Evaluator:

Signature of the Evaluator Date of Evaluation:

WEEK-9

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student's use only)

(For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation:

WEEK-10

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student's use only)

(For Evaluator's use only)

Comment of the Evaluator (if Any)

Evaluator's Observation

Marks Secured: _______ out of ________

Full Name of the Evaluator:

Signature of the Evaluator   Date of Evaluation:

WEEK-11

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student’s use only)

(For Evaluator’s use only)

Comment of the Evaluator (if Any)

Evaluator’s Observation

Marks Secured: _______ out of ________

Full Name of the Evaluator:

Signature of the Evaluator   Date of Evaluation:

WEEK-12

Writing space for the Problem:(For Student’s use only)

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Writing space for the Problem:(For Student's use only)

(For Evaluator's use only)

Comment of the Evaluator (if Any)	Evaluator's Observation Marks Secured: _______ out of ________ Full Name of the Evaluator: Signature of the Evaluator Date of Evaluation: