SASTRA DEEMED-TO-BE UNIVERSITY
END SEMESTER EXAMINATIONS
B.Tech. - V SEMESTER
FEBRUARY 2021
CSE304: PYTHON PROGRAMMING WITH WEB FRAMEWORKS

DURATION: 3 Hrs.
MAX. MARKS: 100

Question:

Create a **csv file** that contains name of person, status (Professional / Politician / Employee), income per year, list of fixed deposit values, dictionary of assets and their values in the following format:

Name, Status, Income, FD_List, Asset_Value_Dict
AAA, Professional, 800000, [1200000, 45000,300000, 200000], {House:4500000, Car:600000, Land:4000000, Jewels:1000
BBB, Politician, 10000000, [2000000, 1000000, 25000000], {House:30000000, Car:2000000, Land:100000000, Jewels:2500
CCC, Employee, 700000, [500000, 20000000, 150000], {House:1000000, Jewels:250000}
.....

1. Create module called **person** to define a python class named **Person** to hold **attributes** name (string), status (string), income (integer), total deposits value (sum of all FD values - integer) and total assets value (sum of all assets values - integer). Provide **functions** to initialize its members, to return string representation of object by concatenating all details as a string separated by comma. Also define **another function** to check the validity of candidature using the following rules:
    a. If the person is a **Professional** and his total deposits exceeds 10 times of his annual income or the total assets value exceeds 25 times of his annual income, then raise an **ValueError** Exception **"IT Raid Alert"** message
    b. If the person is a **Politician** and his total deposits and total assets value exceeds 10 times of his annual income, then raise **ValueError** Exception **"Disproportionate Assets Alert"** message
    c. If the person is an **Employee** and his total deposits or total assets value exceeds 20 times of his annual income, then raise **ValueError** Exception with **"Scam Alert"** message
2. Create another **module** called **candidate** and define **createCand_List() function** to create Person objects from the csv file and store those objects as a **module level list object called candidate_list**.
3. Create a **webpage using template systems** that takes candidate_list, checks the validity of candidature of each person to render and display the alert message if exception is raised (or else "**Good" message if no exception**) along with the details of each person.

[Note: No necessity to create Model or Form. Include at least 10 persons details in the csv file to cover all possible outputs]

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Using django framework, develop a site that allow the faculty by login and enter the marks of a candidate (Use exception handling). The grade of the mark should be determined by the python code, all the marks and grade need to be stored in a database.

Add file

Send me a copy of my response.

Submit

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1. **Voyage**: The travelling app which can connect the travelers with tourism companies. The app needs to be installed in every travelers mobile device. The app collects the source and destination details, mode of travel, No. of travelers and number of days details from the user. Based on their details, app will suggest the best hotels, food joints, sight seeing places, shopping points and cultural event happenings to the users. For this suggestion the app needs to be created by using AI for the prediction of the details to the user. Once the app suggestion will be selected by the client, the app will create the unique ID for each trip and travelers. From the source to destination by using the GPS, app will guide the users for safe journey. Based on the mode of travel, app should provide the features like Emergency contact, next GAS station, upcoming food joints in the way, next site seeing location and dynamic routes based on the traffic and weather conditions as well panic button. The app should predict the possible time to reach the destination by reading the movement of the vehicle. If time exceeds abnormally, the app should contact the traveler, then local emergency number (based on the current GPS location) will be called from the user device as well location will be messaged to the emergency number set by the traveler for emergency situation. The app should focus more on read the movement of the traveler and their current location will make suggestion to the user. The suggestions should be made by the reviews of previous travelers. The app should connect the insurance companies as suggestion prior to every travel.

   For the given scenario create a Django web forms which can read and display the traveler details

   Read the traveler name, mobile number, journey dates (from and to), location, mode of travel, stay options, food options and for other details collect from scenario. You should create three forms: 1. To Show the available service like booking hotels, site seeing,, mode of travelling, 2. To Collect the details for each service in respective forms and 3. To display the Traveler details along with package, travel mode, food and accommodation. Host this using Django web forms

Question *

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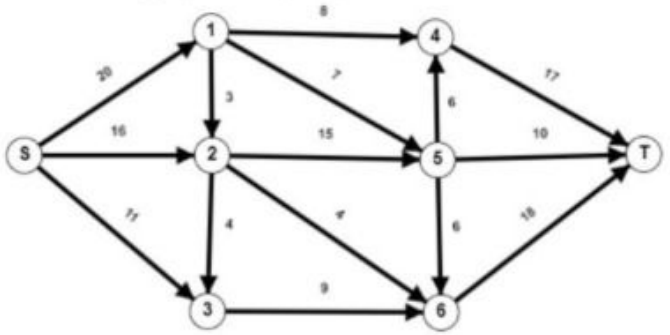
Develop a web page to list or show the nuts and dry fruits and their price in a table, Use login to view the page, the login credentials and nuts, price and dry fruits, price details should be stored in three different dictionaries.

Add file

A weighted directed graph G=(V,E) may be represented as a **dictionary of edges** where for each edge (start vertex, end vertex) tuple is stored as key with its weight as value.

1. Create a module named graph.py to define a **python class** named **Graph** that has the following function attributes: __init__, transformEdges, and sortEdges
2. In **__init__ function,** read input from a text file named graph.txt that contains the graph details in the following format and initializes the edge_list attribute as a dictionary
   First Line contains no. of edges n, and subsequent n lines contains for each edge start vertex, end vertex and its weight.
3. In **transformEdges function,** create a list of tuples (start vertex, end vertex, weight) from edge_list using **list comprehension**, and return the list
4. In **sortEdges function,** convert the edge_list attribute as list of tuples using the transformEdges function, sort them and return the list of tuples in increasing order of their edge weight.
5. Create a **webpage using template systems** that takes the graph represented as dictionary render and print the edges in increasing order of their weight using the function sortEdges.

Use the following graph as sample input:



[Note: No necessity to create Model or Form]

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Question:

Develop the Django python web framework for generating the random number which gets the user input as total number of random number sequence (L) and also the maximum magnitude for a random number (M). Avoid redundancy of random number in the sequence (Exactly one time only number should appear in the list). Write the generated random numbers for recently received L and M value in the CSV file.

The program should follow the given conditions:

- ✓ The number of the random number sequence is L and maximum value is M
- ✓ Each random number must be unique
- ✓ Create a project with the name "Randgen"
- ✓ Create an application with the name "PRNG"
- ✓ Create the necessary fields for database in the file "model.py"
- ✓ Create the file "view.py" with Request and Response for Random number generation

Develop a Django python web framework to support the PRNG system. Display the L and M values in the web page.

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Question:

A manufacturing company XYZ maintains a database using Django application. The inventory manager keeps a database for products with details such as Product ID, Product Name, and Quantity in hand. The inventory manager has to generate the consolidated product details report in the form a CSV file.

The program should adhere to the following conventions:
Create a project with the name "inventory"
Create an application with the name "product"
Create the fields for product database in the file "model.py"
Create the file "view.py" with Request and Response for product details

Develop a Django web framework to help the inventory manager which should generate the product details report as a CSV file and also display the data using a HTML file.

Question * 100 points

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A django application is to be created to support product delivery logistics. The app tells information about the source and destination location and the distance between them. This information is to be stored as a dictionary object. Each object contains the SourceCity, DestinationCity and Distance. SourceCity is the key and the value will be a list of tuples. Each element of the list will be a tuple containing the DestinationCity and Distance, in sequence. Create a model to generate the routes and update the database at the backend.

The user interface has the following functionalities:

a) AddNewRoute() - Input the source, destination and distance. If a matching object is present i.e., if the source and destination matches, then raise an exception with the message "Route already present". If the source is present and the destination is not in the list, then add the (destination, distance) pair to the values of that source city.

b) FindDistance() – Input the source and destination. If a match is found, then display the distance.

Create the home page and demonstrate the functionalities given above for the application and name it appropriately.

Build a Django based web application for displaying employee details along with total experience. Your application must include the following:

1. Create a model class with four fields: *ename, eaddress, ejoin_dt* and *edept* with suitable data types attached.

2. Create a Django Form class with form fields matched with that of the model class.

3. Attach the model to Admin interface and present the display of objects similar to the following Django Administration interface. Default ordering based on joining date is to be set.

4. Create three view functions:

   a) index function that simply displays a welcome message when the URL is empty.

   b) emp_post function that stores a newly constructed model object using posted data in database, creates an empty CSV file called emp.csv and appends the posted data as a row in the CSV and redirects the response to emp_archive function. Note: The joining date to be entered in the form interface should comply with this dd-mm-yyyy format.

MAX. MARKS: 100

1. **HOMEPLAN**: A company has a software to build a house plan, viewing the plan and communicating with the construction company. The software connects the Construction Company and customer to make a construction plan based on the property. From the customer side their Personal details like name, mobile number, ID proof, address, and expected cost estimation will be collected along with property details like location of the property, size of the property in square feet, and current value of the property for the planning the construction. The common account will be created for each building construction project and it can be accessed by both owner of the property and construction company with different authentications. Once the account will be created, then property details should be entered. Based on the property details will be available, then the construction company needs to assess the property and test the construction area for possible mode and style of construction suits for the property. Based on customer details and property details, the possibilities of the construction will be available to the property owner and then they need to choose their plan. Upon the authentication from the owner, the software will provide the house plan based on the property size and style of construction with multiple choice. The owner will be offered with so many customizations and interior designs. In additional expense monitoring also provided to track the construction.

For this given scenario, create a Django web application by creating appropriate forms to collect user details and property details separately. Use the model to store multiple user details and property details. Display the output of any of customer details along with their property details in the web page.

A corporate uses Django application to maintain an Staff database. Database need to be updated by the HR manager with details such as staff ID, staff Name, Designation and salary. List of staff details must be shared from the database to the accounts manager through email.

The program should adhere to the following conventions:
Create a project with the name "Staff "
Create an application with the name "Report"
Create the fields for employee database in the file "model.py"
Create the file "view.py" with Request and Response for details

Develop a Django web framework to help the HR manager to send an email and also display the data using a HTML file.