2CC PROJECTS LIST 2019-2020

GENERAL INSTRUCTIONS:

Follow the instructions carefully:

- You can choose any domain based on preference
- You need to attempt at least one project from any one of the domain
- You can try different project but only one project will be considered for submission
- You need to create a GitHub repo for your project and share the link in the project report itself.
- At the end of 2CC course you need to submit a project report in the standard project report format of your J component subjects
- Your performance in the project will be considered for evaluation and results will be decided accordingly.

Backend

1. **Movies website**

   Description:

   Task: CRUD + Scrap (can be skipped)

   - Scrape Data from different websites (say YouTube, movieshd) and populate the db to be later used for below operations.
     - Authentication for users (using CRUD is fine)
     - Maintain a database of users
     - Maintain what movies that user watch (when a link is clicked)
     - User can see their watch history
     - A server login who can watch all users and their watch history

   Take appropriate assumptions

   More functionalities can be added in addition with provided ones

2. **Building a Restful API to handle Bank Transactions**

Description:

Task: CRUD

- Must Include Endpoints for below functionalities
  - Basic authentication using CRUD operations
  - Register a bank
  - Add account with a bank
  - Transfer money to bank or different accounts
  - Check Balance
  - Take loan
  - Pay loan
  - Debt

Note: Check boundary conditions like user can not send -ve amount of money to a different user and such.

Take appropriate assumptions

More functionalities can be added in addition with provided ones

3. **Plagiarism check**

Description:

(Building a Restful API for Documents Similarity Check)(Natural Language Processing, or design a simple algorithm to detect similarity)

Task: CRUD

- User Authentication (Using CRUD operations)
- User gets x free tokens for plagiarism check (on account creation)
- User exchange 1 token for 1 plagiarism check (between 2 docs)
- User can purchase more tokens

Machine Learning

Problem Description:

A wildlife strike is a collision between an animal (most often a bird, but sometimes another species) and a man made vehicle, especially aircraft. Wildlife strikes constitute a serious hazard to aircraft safety and have caused a number of fatal accidents.

The Federal Aviation Authority counted 177,269 wildlife strike reports on civil aircraft between 1990 and 2015, growing 38% in seven years from 2009 to 2015. Birds accounted for 97%.

Dataset :

Given below is a dataset of Aircraft Wildlife Strikes in the years 1990-2015

Link: https://www.kaggle.com/faa/wildlife-strikes

Description of the dataset:

The dataset contains a record of each reported wildlife strike of a military, commercial, or civil aircraft between 1990 and 2015. Each row contains the incident date, aircraft operator, aircraft make and model, engine make and model, airport name and location, species name and quantity, and aircraft damage.

Task description :

As described above, this dataset has 66 features related to the damage caused to airplanes and the species of bird that caused the damage

Your task is simple : Find the answer the the questions below

1. What bird species has caused the most damage to airplanes?
2. Which part of the airplane is most prone to damage in wildlife strikes?

Things To Keep In Mind :

- Use data visualization tools to understand and analyze the data better
- Feature selection is the key here - remember that not all 66 features are relevant to the problem! Select only those that you need to train your model.
- Data Science is not about building models, it is about solving problems by using / analyzing data

Android

1. **App for URL Shortening:**

   Description:

   Create an app for shortening urls using https://developers.rebrandly.com/docs/api-custom-url-shortener or any other link shortening API of your choice

2. **App for Note making**

   Description:

   - Create an app to save notes offline.
   - Notes should have a title and body.
   - The app should be able to Create, Read, Update and Delete notes.

Frontend

1. **Portfolio Website**

   Description:

   Make a portfolio website(Personal Website) that contains below requirements
   - i) About
   - ii) Experience
   - iii) Projects
   - iv) Skills
   - v) Certificates
   - vi) Education
   - vii) Contact and Resume

2. Responsive websites Task

Description:

Build a website compatible with all the major browsers and fully responsive, of five screens with the following features included:
- i) A Carousel
- ii) An Animated Navbar
- iii) Animations when the user scrolls to a particular part of the site.
- iv) Something else

Do this all in Vanilla JS, CSS(No libraries to be used).