

Assignment 3

Career Advisory System using Forward Chaining Rules

By:-

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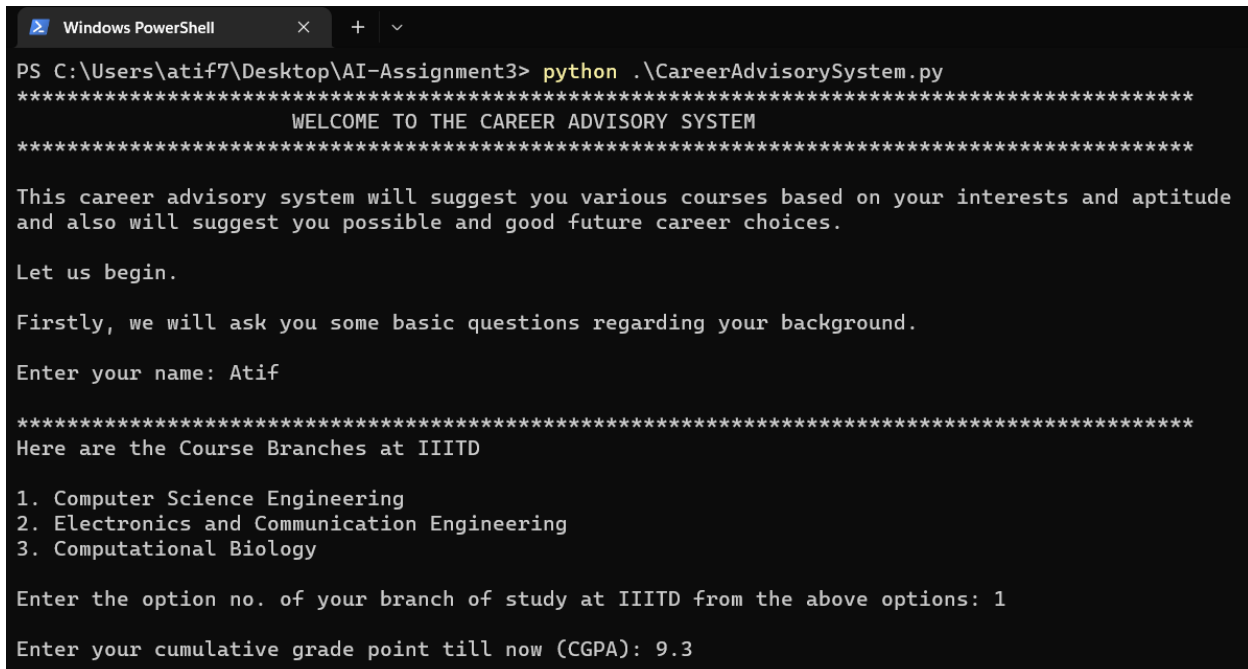
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B.Tech, Computer Science and Biosciences

Code flow diagram given in the end.

Sample Outputs (Screenshots)

1.



```
Windows PowerShell
PS C:\Users\atif7\Desktop\AI-Assignment3> python .\CareerAdvisorySystem.py
*****
                        WELCOME TO THE CAREER ADVISORY SYSTEM
*****

This career advisory system will suggest you various courses based on your interests and aptitude
and also will suggest you possible and good future career choices.

Let us begin.

Firstly, we will ask you some basic questions regarding your background.

Enter your name: Atif

*****
Here are the Course Branches at IIITD

1. Computer Science Engineering
2. Electronics and Communication Engineering
3. Computational Biology

Enter the option no. of your branch of study at IIITD from the above options: 1

Enter your cumulative grade point till now (CGPA): 9.3
```

Welcome screen and asking basic background questions like name and CGPA of the user.

2.

```
*****
Where does your interest lie?

1. Would you like to enter the research field, where you would research on the unsolved problems?
2. Would you like to do enter the IT sector and work at a MNC?

Choose from the options above: 2
```

Asking the user, whether he/she would like to pursue research field later on as a career or wants to do a job in the IT sector.

We select the user wants to do a job in the IT sector.

3.

```
*****
It is good to take care of your career, but one should take out some time for themselves.
There are various clubs at IIITD, which could help one to relieve the burden of studies and keep your mind fresh.

So kind of club are you interested in? Here are a few options. Please choose from the options below.

1. Coding
2. Computer Security
3. Data Science
4. Electronics
5. Entertainment - Singing/Dance/Drama

Enter the option no of the type of club you'd like to join: 1
```

Then the program asks the users to enter the type of club he wants to join based on his interests. We have 5 options of different fields.

We select “Coding” as the type of club, the user wants.

Final Advice Generation (Screenshot)

```
*****
FUTURE CAREER SUGGESTIONS
*****

Hi Atif. Here are the suggestions for you which we assessed based upon your answers.

Future Plan: You really have a great academic record. You should try improving your competitive programming skills, which could land you in high paying HFT
job profiles and product-based companies.

*****
CLUB CHOICES
*****

You can join "Foobar : The competitive programming club of IIITD."

*****
COURSE CHOICES
*****

You are good to take 6xx or higher level (difficult) courses.
You can take courses such as:
1. Artificial Intelligence
2. Machine Learning
3. Cloud Computing
4. Computer Vision
```

Some key features to notice in the output:-

- As the user's CGPA is great, the program acknowledges it and outputs the same. The program gives advice for the user of the best possible jobs in the IT sector. (irrespective of difficulty, as the user is academically strong)
- As the user wishes to join a club related to coding practices, the system suggests the user to join the competitive programming club of IIITD - Foobar.
- As the user is academically strong and belongs to the CSE department, we suggest the user to take difficult courses which would help the user in his overall development. So difficult courses are suggested for the user, from the CSE department.

Sample Screenshots for another situation

```
Windows PowerShell
PS C:\Users\atif7\Desktop\AI-Assignment3> python .\CareerAdvisorySystem.py
*****
WELCOME TO THE CAREER ADVISORY SYSTEM
*****

This career advisory system will suggest you various courses based on your interests and aptitude
and also will suggest you possible and good future career choices.

Let us begin.

Firstly, we will ask you some basic questions regarding your background.

Enter your name: Atif

*****
Here are the Course Branches at IIITD

1. Computer Science Engineering
2. Electronics and Communication Engineering
3. Computational Biology

Enter the option no. of your branch of study at IIITD from the above options: 2

Enter your cumulative grade point till now (CGPA): 6.2
```

Now the branch selected is ECE and the CGPA is also not that great.

```
*****
Where does your interest lie?

1. Would you like to enter the research field, where you would research on the unsolved problems?
2. Would you like to do enter the IT sector and work at a MNC?

Choose from the options above: 1

*****
It is good to take care of your career, but one should take out some time for themselves.
There are various clubs at IIITD, which could help one to relieve the burden of studies and keep your mind fresh.

So kind of club are you interested in? Here are a few options. Please choose from the options below.

1. Coding
2. Computer Security
3. Data Science
4. Electronics
5. Entertainment - Singing/Dance/Drama

Enter the option no of the type of club you'd like to join: 5
```

The user now has a future plan to pursue research, and would like to join a club which entertains him.

Final Advice Generation (Screenshot)

```
*****
                          FUTURE CAREER SUGGESTIONS
*****

Hi Atif. Here are the suggestions for you which we assessed based upon your answers.

Future Plan: Your CGPA is currently really not upto the mark. Research institutions prefer candidates with CGPA above 8. Try to improve it. Take light courses which would help you improve your CGPA, as mentioned below. Try and work under professors at IIITD and then possibly aim to join big Research companies of your field of study.

*****
                          CLUB CHOICES
*****

You can join clubs like Audiobytes, Machaan, Madtoes.

*****
                          COURSE CHOICES
*****

Try to take 4xx or less, level courses. This would be beneficial for you in improving your CGPA and you could perform good in them as well.
You can take courses such as:
1. Solid State Devices
2. Digital Communication Systems
3. Radar Systems

PS C:\Users\atif7\Desktop\AI-Assignment3> |
```

Some key features to notice in the output:-

- As the user's CGPA is now not that great, the program acknowledges it and outputs the same. The program gives advice for the user to first improve their CGPA and work under professors at their stay in IIITD. (for detailed output, see screenshot)
- As the user wishes to join a club in which he can relax a bit (entertainment), the system suggests the user to join the Audiobytes(singing club), Machaan(drama club) or Madtoes(dance club) of IIITD.
- As the user is not that much academically strong and belongs to the ECE department, we suggest the user to take easy courses which would help the user in improving the CGPA as improving CGPA is necessary for him/her (as the user wants to go research field). So some easy courses are suggested for the user, from the ECE department.

Forward-Chaining Diagram

By - Mohammad Atif Quamar, 2020523

