

AI- Assignment 3

A Career Advisory System

This is a career advisory system designed to give users recommendations of future career options based on the courses they did in college and their interests, if any.

Input -

1. The user is asked to enter his name to greet him.
2. Then a list of available courses is displayed, users need to select the course number and enter his grades for the respective courses he did (-1 when done).
3. Then a list of available interest options is displayed to select from them and then the user is asked to enter his interest level from 1 to 5 for that option (-1 when done).

Assumptions -

1. Taken an array of courses and interests, so any number of them can be chosen.
2. User can score grades between 1 to 10.
3. Interest level can range from 1 to 5.
4. There are three courses available in each career option.
 - a. There is a compulsory Introductory course for each career option and two advanced-level courses.
 - b. If the user has taken the introductory course and any of the two advanced-level courses with grades that satisfy the conditions (grade ≥ 9 in the introductory course and grade ≥ 8 in one of the advanced courses), then recommend them the respective career.
 - c. However, if he failed (grade ≤ 3) in any of the three courses, he cannot pursue that career. Hence for each career advice, there are four condition combinations.
5. There are four SSH courses available if the user takes any of them and scores good marks, then assume they are interested in the branch and recommend a career option according to their interests (forward chaining)
6. Five interest options are available: music, dancing, design, performing, and finance. Used different interest levels for each interest option to recommend them career advice in the respective fields.
 - a. for music, dancing and performing, if the user is highly interested (interest_level ≥ 4), then recommend a career in that field.
 - b. design and finance if the user has above average interest (interest_level ≥ 3), recommend a career in that field.
7. If the user did not complete any course, show them a wide variety of courses to try.

8. If the user is not interested in any option, show them some of the ssh courses to increase curiosity in the available fields.

Table Representing career and their introductory course, advanced level courses 1 and 2.

Career	Introductory course	Advance level course 1	Advance level course 2
Artificial Intelligence	introduction_to_intelligent_sytems	machine_learning	artificial_intelligence
Quantum Researcher'	introduction_to_quantum_computing	quantum_mechanics	introduction_to_quantum_computing
Data Scientist'	fundamentals_of_databas e_management_system	big_data_analytics	database_system_implem entation
UI/UX designer	design_drawing_and_visu alization	prototyping_interactive_sy stems	human_computer_interacti on
Economist	econometrics_I	Microeconomics	Macroeconomics

Table listing ssh courses their career condition and the respective career.

Career	SSH course	Grades Condition
Actor	theatre_appreciation	>= 9
Paper Reviewer	introduction_to_the_study_of_literature	>= 9
Poet	indian_poetry_through_the_ages	== 10
Economist	foundations_of_finance	>= 8

Source Code

```
from durable.lang import *

available_course_list = {1 : 'introduction_to_intelligent_sytems', 2 : 'machine_learning',
                        3 : 'artificial_intelligence', 4 : 'quantum_mechanics',
                        5 : 'introduction_to_quantum_computing', 6 : 'quantum_materials_and_devices',
                        7 : 'fundamentals_of_database_management_system', 8 : 'big_data_analytics',
                        9 : 'database_system_implementation', 10 : 'design_drawing_and_visualization' ,
                        11 : 'prototyping_interactive_systems', 12 : 'human_computer_interaction' ,
                        13 : 'econometrics_I', 14: 'Microeconomics' ,
                        15 : 'Macroeconomics',
                        16 : 'theatre_appreciation', 17 : 'introduction_to_the_study_of_literature',
                        18 : 'indian_poetry_through_the_ages', 19 : 'foundations_of_finance'}

available_interest_list = {1 : 'music', 2 : 'dancing', 3: 'design', 4 : 'performing', 5 : 'finance'}

# Rule set to check if user gave any input
with ruleset('choice'):

    # if user gave any course done input
    @when_all(m.course_count >= 1)
    def course(c):
        print("These are the career choice according to course done and their marks")
        c.assert_fact('course', {'course' : c.m.course})
        print("-----")

    #if user gave any interest input
    @when_all(m.interest_count >= 1)
    def interest(c):
        print("These are the career choice according to your interests and interest levels")
        c.assert_fact('interest', {'interest' : c.m.interest})
        print("-----")

    #if user gave none course done input
    @when_all(m.course_count == 0)
    def course(c):
        print("-----")
        print("Don't worry first do some of the courses")
        print('Here are some of the courses you can try')
        c.assert_fact({'subject': 'artificial_intelligence', 'type': 'cse elective'})
        c.assert_fact({'subject': 'introduction_to_quantum_computing', 'type': 'ece elective'})
        c.assert_fact({'subject': 'fundamentals_of_database_management_system', 'type': 'cse elective'})
        c.assert_fact({'subject': 'econometrics_I', 'type': 'eco elective'})

    #if user gave none interest done input
    @when_all(m.interest_count == 0)
    def interest(c):
        print("-----")
        print("Don't worry here are the some courses to see what what your interests are: ")
        c.assert_fact({'ssh': 'theatre_appreciation', 'type': 'ssh elective'})
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c.assert_fact({'ssh': 'introduction_to_the_study_of_literature', 'type': 'ssh elective'})
c.assert_fact({'ssh': 'indian_poetry_through_the_ages', 'type': 'ssh elective'})
c.assert_fact({'ssh': 'foundations_of_finance', 'type': 'eco elective'})

@when_all(+m.subject)
def output(c):
    print('Subject Recommended: {0} \t type : {1}'.format(c.m.subject, c.m.type))

@when_all(+m.ssh)
def output(c):
    print('Subject Recommended: {0} \t type : {1}'.format(c.m.ssh, c.m.type))

# course ruleset
with ruleset('course'):

    # -----
    #For Artificial Intelligence
    # took introduction_to_intelligent_sytems and machine_learning
    @when_all(m.course.anyItem((item.introduction_to_intelligent_sytems >= 9)) &
m.course.anyItem((item.machine_learning >= 8)) & m.course.anyItem((item.artificial_intelligence <= 0)))
    def course(c):
        c.assert_fact('career_choice' ,{'choice': 'Artificial Intelligence' })

    # took introduction_to_intelligent_sytems and artificial_intelligence
    @when_all(m.course.anyItem((item.introduction_to_intelligent_sytems >= 9)) &
m.course.anyItem((item.machine_learning <= 0)) & m.course.anyItem((item.artificial_intelligence >= 8)))
    def course(c):
        c.assert_fact('career_choice' ,{'choice': 'Artificial Intelligence' })

    # took introduction_to_intelligent_sytems, machine_learning and artificial_intelligence passed last with less
    grades
    @when_all(m.course.anyItem((item.introduction_to_intelligent_sytems >= 9)) and
m.course.anyItem((item.machine_learning >= 8)) & m.course.anyItem((item.artificial_intelligence > 3)))
    def course(c):
        c.assert_fact('career_choice' ,{'choice': 'Artificial Intelligence' })

    # took introduction_to_intelligent_sytems, machine_learning and artificial_intelligence passed sencond with
    less grades
    @when_all(m.course.anyItem((item.introduction_to_intelligent_sytems >= 9)) &
m.course.anyItem((item.machine_learning > 3)) & m.course.anyItem((item.artificial_intelligence >= 8)))
    def course(c):
        c.assert_fact('career_choice' ,{'choice': 'Artificial Intelligence' })

    # -----
    #For Quantum Researcher
    # took introduction_to_quantum_computing and quantum_mechanics
    @when_all(m.course.anyItem((item.introduction_to_quantum_computing >= 9)) &
m.course.anyItem((item.quantum_mechanics >= 8)) & m.course.anyItem((item.quantum_materials_and_devices
<= 0)))
    def course(c):
        c.assert_fact('career_choice' ,{'choice': 'Quantum Researcher' })

    # took introduction_to_quantum_computing and quantum_materials_and_devices
    @when_all(m.course.anyItem((item.introduction_to_quantum_computing >= 9)) &
m.course.anyItem((item.quantum_mechanics <= 0)) & m.course.anyItem((item.quantum_materials_and_devices

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>= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Quantum Researcher' })

    # took introduction_to_quantum_computing, quantum_mechanics and quantum_materials_and_devices
    passed last with less grades
    @when_all(m.course.anyItem((item.introduction_to_quantum_computing >= 9)) and
m.course.anyItem((item.quantum_mechanics >= 8)) & m.course.anyItem((item.quantum_materials_and_devices
> 3)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Quantum Researcher' })

    # took introduction_to_quantum_computing, quantum_mechanics and quantum_materials_and_devices
    passed sencond with less grades
    @when_all(m.course.anyItem((item.introduction_to_quantum_computing >= 9)) &
m.course.anyItem((item.quantum_mechanics > 3)) & m.course.anyItem((item.quantum_materials_and_devices
>= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Quantum Researcher' })

# -----
#For Data Scientist
# took fundamentals_of_database_management_system and big_data_analytics
@when_all(m.course.anyItem((item.fundamentals_of_database_management_system >= 9)) &
m.course.anyItem((item.big_data_analytics >= 8)) & m.course.anyItem((item.database_system_implementation
<= 0)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Data Scientist' })

# took fundamentals_of_database_management_system and database_system_implementation
@when_all(m.course.anyItem((item.fundamentals_of_database_management_system >= 9)) &
m.course.anyItem((item.big_data_analytics <= 0)) & m.course.anyItem((item.database_system_implementation
>= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Data Scientist' })

# took fundamentals_of_database_management_system, big_data_analytics and
database_system_implementation passed last with less grades
@when_all(m.course.anyItem((item.fundamentals_of_database_management_system >= 9)) and
m.course.anyItem((item.big_data_analytics >= 8)) & m.course.anyItem((item.database_system_implementation >
3)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Data Scientist' })

# took fundamentals_of_database_management_system, big_data_analytics and
database_system_implementation passed sencond with less grades
@when_all(m.course.anyItem((item.fundamentals_of_database_management_system >= 9)) &
m.course.anyItem((item.big_data_analytics > 3)) & m.course.anyItem((item.database_system_implementation >=
8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Data Scientist' })

# -----
#For UI/UX designer
# took design_drawing_and_visualization and prototyping_interactive_systems

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@when_all(m.course.anyItem((item.design_drawing_and_visualization >= 9)) &
m.course.anyItem((item.prototyping_interactive_systems >= 8)) &
m.course.anyItem((item.human_computer_interaction <= 0)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'UI/UX designer' })

# took design_drawing_and_visualization and human_computer_interaction
@when_all(m.course.anyItem((item.design_drawing_and_visualization >= 9)) &
m.course.anyItem((item.prototyping_interactive_systems <= 0)) &
m.course.anyItem((item.human_computer_interaction >= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'UI/UX designer' })

# took design_drawing_and_visualization, prototyping_interactive_systems and human_computer_interaction
passed last with less grades
@when_all(m.course.anyItem((item.design_drawing_and_visualization >= 9)) and
m.course.anyItem((item.prototyping_interactive_systems >= 8)) &
m.course.anyItem((item.human_computer_interaction > 3)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'UI/UX designer' })

# took design_drawing_and_visualization, prototyping_interactive_systems and human_computer_interaction
passed sencond with less grades
@when_all(m.course.anyItem((item.design_drawing_and_visualization >= 9)) &
m.course.anyItem((item.prototyping_interactive_systems > 3)) &
m.course.anyItem((item.human_computer_interaction >= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'UI/UX designer' })

# -----
#For Economist
# took econometrics_I and Microeconomics
@when_all(m.course.anyItem((item.econometrics_I >= 9)) & m.course.anyItem((item.Microeconomics >= 8)) &
m.course.anyItem((item.Macroeconomics <= 0)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Economist' })

# took econometrics_I and Macroeconomics
@when_all(m.course.anyItem((item.econometrics_I >= 9)) & m.course.anyItem((item.Microeconomics <= 0)) &
m.course.anyItem((item.Macroeconomics >= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Economist' })

# took econometrics_I, Microeconomics and Macroeconomics passed last with less grades
@when_all(m.course.anyItem((item.econometrics_I >= 9)) and m.course.anyItem((item.Macroeconomics >=
8)) & m.course.anyItem((item.Macroeconomics > 3)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Economist' })

# took econometrics_I, Microeconomics and Macroeconomics passed sencond with less grades
@when_all(m.course.anyItem((item.econometrics_I >= 9)) & m.course.anyItem((item.Microeconomics > 3)) &
m.course.anyItem((item.Macroeconomics >= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Economist' })

```

```

# If completed ssh course with good grades recommend respective career option to user
@when_all(m.course.anyItem((item.theatre_appreciation >= 9)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Actor' })

@when_all(m.course.anyItem((item.introduction_to_the_study_of_literature >= 9)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Paper Reviewer' })

@when_all(m.course.anyItem((item.indian_poetry_through_the_ages == 10)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Poet' })

@when_all(m.course.anyItem((item.foundations_of_finance >= 8)))
def course(c):
    c.assert_fact('career_choice' ,{'choice': 'Economist' })

#interest ruleset
with ruleset('interest'):
    # interest level in music is greater than 4 recommend musician as career
    @when_all(m.interest.anyItem((item.music >= 4)))
    def interest(c):
        c.assert_fact('career_choice' ,{'choice': 'Musician' })

    # interest level in dancing is greater than 4 recommend dancer as career
    @when_all(m.interest.anyItem((item.dancing >= 4)))
    def interest(c):
        c.assert_fact('career_choice' ,{'choice': 'Dancer' })

    # interest level in design is greater than 3 recommend UI/UX designer as career
    @when_all(m.interest.anyItem((item.design >= 3)))
    def interest(c):
        c.assert_fact('career_choice' ,{'choice': 'UI/UX designer' })

    # interest level in performing is greater than 4 recommend actor as career
    @when_all(m.interest.anyItem((item.performing >= 4 )))
    def interest(c):
        c.assert_fact('career_choice' ,{'choice': 'Actor'})

    # interest level in finance is greater than 3 recommend Economist as career
    @when_all(m.interest.anyItem((item.finance >= 3)))
    def interest(c):
        c.assert_fact('career_choice' ,{'choice': 'Economist' })

# ruleset for career_choice to print details if any for the career else normally print them
with ruleset('career_choice'):
    # @when_all(m.choice == 'Artificial Intelligence')
    # def fun(c):
    #     print("Lorem ipsum")

    @when_all(+m.choice)
    def output(c):
        print('career Option: {0}'.format(c.m.choice))

```

fuction that take user courses and grades

```
def course():
    career_list = []
    selected_list = []
    career_count = 0
    option = 1
    grade = 0
    grade_list = []
    print('-----')
    print("Please enter the courses done if any enter '-1' to end")
    print("-----")
    for i in available_course_list:
        print(str(i)+" : "+ available_course_list[i])
        grade_list.append(0)
    print("-----")

    while(1):
        option = int(input("Enter Course Number : "))
        if(option == -1):
            break
        grade = int(input("Enter Course grade : "))
        if((option <= 0 or option > len(available_course_list)) or (grade < 0 or grade > 10)):
            print("Invaild option !! Try again !")
            print("-----")
        elif(selected_list.count(option) == 0):
            print("course : "+str(available_course_list[option])+" grades : "+ str(grade))
            print("-----")
            selected_list.append(option)
            grade_list[option-1] = grade
            career_count = career_count+1

    for i in range(0, len(grade_list)):
        career_list.append({ available_course_list[i+1] : grade_list[i]})
    return career_count, career_list
```

fuction that take user interest and grades

```
def interest():
    interest_list = []
    selected_list = []
    interest_count = 0
    option = 1
    interest_level = 0
    interest_level_list = []
    print()
    print('-----')
    print("Please enter interest if any enter '-1' to end")
    print("-----")
    for i in available_interest_list:
        print(str(i)+" : "+ available_interest_list[i])
        interest_level_list.append(0)
    print("-----")
    while(1):
        option = int(input("Enter Interest Number : "))
        if(option == -1):
            break
```



```

interest_level = int(input("Enter Interest level (1 to 5) : "))

if(option <= 0 or option > len(available_interest_list) or (interest_level < 1 or interest_level > 5)):
    print("Invalid option !! Try again !")
    print("-----")
elif(selected_list.count(option) == 0):
    print("Interest : "+str(available_interest_list[option])+" Interest level : "+ str(interest_level))
    selected_list.append(option)
    interest_level_list[option -1] = interest_level
    print("-----")
    interest_count = interest_count+1

for i in range(0, len(interest_level_list)):
    interest_list.append({ available_interest_list[i+1] : interest_level_list[i]})
return interest_count,interest_list

def main():
    print("-----career advisory system-----")
    print("Enter your name: ",end="")
    name = input()
    print('-----')
    print("Hi! "+name+", welcome to the career advisory system for a graduating student of IIITD")
    print('-----')
    print("Please answer the questions: ")
    course_count, course_list = course()
    interest_count, interest_list = interest()
    print("-----")
    assert_fact('choice', {'course_count': course_count,'course': course_list, 'interest_count' : interest_count,
    'interest': interest_list})

main()

```

Screenshots

*** Each ss contains multiple possible cases in them. The course and interest from any of them can be mixed. These are only some of the few possible pairs

User did all three courses for career advice AI and passed all three with good marks in introduction_to_intelligent_system, and machine_learning that can clear the condition. Also, the user had an interest in music with an interest level high.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : 1
Enter Course grade : 9
course : introduction_to_intelligent_sytems   grades : 9
-----
Enter Course Number : 2
Enter Course grade : 8
course : machine_learning   grades : 8
-----
Enter Course Number : 3
Enter Course grade : 6
course : artificial_intelligence   grades : 6
-----
Enter Course Number : -1
```

```
-----
Please enter interest if any enter '-1' to end
-----
1 : music
2 : dancing
3 : design
4 : performing
5 : finance
-----
Enter Interest Number : 1
Enter Interest level (1 to 5) : 4
Inerest : music   Interest level : 4
-----
Enter Interest Number : -1
-----
These are the career choice according to course done and their marks
career Option: Artificial Intelligence
-----
These are the career choice according to your interests and interest levels
career Option: Musician
-----
```

The user did all three courses for career advice AI but failed in artificial_intelligence, thus failing the condition.

Also, he was not interested in any of the options, so the system showed some options to explore.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : 1
Enter Course grade : 10
course : introduction_to_intelligent_sytems    grades : 10
-----
Enter Course Number : 2
Enter Course grade : 10
course : machine_learning    grades : 10
-----
Enter Course Number : 3
Enter Course grade : 3
course : artificial_intelligence    grades : 3
-----
Enter Course Number : -1

-----
Please enter interest if any enter '-1' to end
-----
1 : music
2 : dancing
3 : design
4 : performing
5 : finance
-----
Enter Interest Number : -1
-----
These are the career choice according to course done and their marks
-----
Don't worry here are the some courses to see what what your interests are:
Subject Recommended: foundations_of_finance    type : eco elective
Subject Recommended: indian_poetry_through_the_ages    type : ssh elective
Subject Recommended: introduction_to_the_study_of_literature    type : ssh elective
Subject Recommended: theatre_appreciation    type : ssh elective
```

The user did not enter any course, so show him some introductory courses.
The user was interested in some options, but his interest level did not clear the condition.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : -1
-----
Please enter interest if any enter '-1' to end
-----
1 : music
2 : dancing
3 : design
4 : performing
5 : finance
-----
Enter Interest Number : 1
Enter Interest level (1 to 5) : 1
Inerest : music   Interest level : 1
-----
Enter Interest Number : 2
Enter Interest level (1 to 5) : 2
Inerest : dancing   Interest level : 2
-----
Enter Interest Number : -1
-----
These are the career choice according to your interests and interest levels
-----
Don't worry first do some of the courses
Here are some of the courses you can try
Subject Recommended: econometrics_I           type : eco elective
Subject Recommended: fundamentals_of_database_management_system   type : cse elective
Subject Recommended: introduction_to_quantum_computing   type : ece elective
Subject Recommended: artificial_intelligence           type : cse elective
```

The user cleared the conditions for multiple career choices based on courses and grades.
The user cleared the conditions for multiple career Choices based on interest and interest level.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : 1
Enter Course grade : 9
course : introduction_to_intelligent_sytems   grades : 9
-----
Enter Course Number : 2
Enter Course grade : 8
course : machine_learning   grades : 8
-----
Enter Course Number : 4
Enter Course grade : 9
course : quantum_mechanics   grades : 9
-----
Enter Course Number : 5
Enter Course grade : 9
course : introduction_to_quantum_computing   grades : 9
-----
Enter Course Number : -1
-----
Please enter interest if any enter '-1' to end
-----
```

1 : music
2 : dancing
3 : design
4 : performing
5 : finance

Enter Interest Number : 1
Enter Interest level (1 to 5) : 5
Interest : music Interest level : 5

Enter Interest Number : 4
Enter Interest level (1 to 5) : 5
Interest : performing Interest level : 5

Enter Interest Number : -1

These are the career choice according to course done and their marks
career Option: Artificial Intelligence
career Option: Quantum Researcher

These are the career choice according to your interests and interest levels
career Option: Musician
career Option: Actor

The user did some ssh courses and cleared conditions in one of them.

The user was not interested in any of the options. Hence, the system shows some of the options to explore.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : 16
Enter Course grade : 9
course : theatre_appreciation   grades : 9
-----
Enter Course Number : 19
Enter Course grade : 7
course : foundations_of_finance   grades : 7
-----
Enter Course Number : -1
-----
Please enter interest if any enter '-1' to end
-----
1 : music
2 : dancing
3 : design
4 : performing
5 : finance
-----
Enter Interest Number : -1
-----
These are the career choice according to course done and their marks
career Option: Actor
-----
Don't worry here are the some courses to see what what your interests are:
Subject Recommended: foundations_of_finance   type : eco elective
Subject Recommended: indian_poetry_through_the_ages   type : ssh elective
Subject Recommended: introduction_to_the_study_of_literature   type : ssh elective
Subject Recommended: theatre_appreciation   type : ssh elective
```

User selected multiple courses.

```
● mohit@Mojito:~/Desktop/AI-A3-Mohit-2020086$ /bin/python3 /home/mohit/Desktop/AI-A3-Mohit-2020086/2020086.py
-----career advisory system-----
Enter your name: mohit
-----
Hi! mohit, welcome to the career advisory system for a graduating student of IIITD
-----
Please answer the questions:
-----
Please enter the courses done if any enter '-1' to end
-----
1 : introduction_to_intelligent_sytems
2 : machine_learning
3 : artificial_intelligence
4 : quantum_mechanics
5 : introduction_to_quantum_computing
6 : quantum_materials_and_devices
7 : fundamentals_of_database_management_system
8 : big_data_analytics
9 : database_system_implementation
10 : design_drawing_and_visualization
11 : prototyping_interactive_systems
12 : human_computer_interaction
13 : econometrics_I
14 : Microeconomics
15 : Macroeconomics
16 : theatre_appreciation
17 : introduction_to_the_study_of_literature
18 : indian_poetry_through_the_ages
19 : foundations_of_finance
-----
Enter Course Number : 13
Enter Course grade : 9
course : econometrics_I    grades : 9
-----
Enter Course Number : 14
Enter Course grade : 10
course : Microeconomics    grades : 10
-----
Enter Course Number : 10
Enter Course grade : 10
course : design_drawing_and_visualization    grades : 10
-----
Enter Course Number : 11
Enter Course grade : 9
course : prototyping_interactive_systems    grades : 9
-----
Enter Course Number : -1
-----
Please enter interest if any enter '-1' to end
-----
1 : music
2 : dancing
3 : design
4 : performing
5 : finance
-----
Enter Interest Number : 1
Enter Interest level (1 to 5) : 5
Inerest : music    Interest level : 5
-----
Enter Interest Number : -1
-----
These are the career choice according to course done and their marks
career Option: UI/UX designer
career Option: Economist
-----
These are the career choice according to your interests and interest levels
career Option: Musician
-----
```