Date: Ex No: 2.2	**Title of the Lab** Tourism Recommendation System	**Name:** Yuvraj Singh Chauhan **Registration Number:** RA1911027010058 **Section:** N1 **Lab Batch:** 1 **Day Order:** 3

AIM:

To implement the Tourism Recommendation Problem in python.

Description of the Concept or Problem given:

In the tourism recommendation system, we create an AI program which recommends various tourism related assistance like recommending some famous tourist spots in the city, famous restaurants and hotels, or suggesting some packages to the user according to its constraints.

The program recommends Hotels and Restaurants with respect to price constraints given by the user, and suggests some beautiful tourist spots according to user's wish (historical places, water bodies, hills, seasonal places, famous temples etc).

Manual Solution:

Firstly, suggest what best you have, then ask user what specifically he is looking for

If the user's preference has price constraints, inform about all available price ranges and ask their preferred range

Find products in that price range and recommend the best of them, covering variety of facilities

If the user is interested in the 5 day trip, suggest him/her some exclusive packages (with in detail information of hotel, price offered VS actual price, Tourist places covered). If asked in particular price range, show all the packages available in that price range

Program Implementation [Coding]

```python
import random

Lakes = ["Fateh Sagar Lake", "Lake Pichola", "Udaisagar Lake", "Jaisamand Lake",
"Rajsamand Lake", "Doodh Talai", "Govardhan Sagar Lake"]

Historical = ["UDAIPUR CITY PALACE", "LAKE PALACE", "JAG MANDIR",
"Sajjangarh Palace", "MONSOON PALACE", "AHAR MUSEUM", "JAGDISH TEMPLE",
"SAHELIYON KI BARI",  "BAGORE KI HAVELI", "HALDIGHATI", "NAVALAKHA
MAHAL", "THE CRYSTAL GALLERY", "NAGDA", "SAHASTRA BAHU TEMPLE"]

Seasonal = ["BHARATIYA LOK KALA MANDAL(August)", "SHILPGRAM(December)" ]

Sites = ["Bahubali Hills", "Neemach Mata Temple", "Sajjangarh Fort"]

Rest = [["Tribute","Ambrai-Amet" ,"HaveliKabab", "MistriSteam"], ["Restaurant1559",
"ADCafe RaJheel's" ,"Rooftop Restaurant", "Rainbow Restaurant"] ,["Rainbow Restaurant",
"Nataraj", "Sukhidya Chawpati"]]

#4day pakage 2 adults

Hotel = [[["The Leela Palace", 42430,"55,067 Rs", ["AC King Sized Bedroom", "Pool",
"Free Parking", "Hot Tub", "Free Wifi", "Breakfast Included", "Lake View",
"Restaurant"]],["Taj Lake Palace", 49000 ,"57,200 Rs", ["AC King Sized Bedroom", "Pool",
"Free Parking", "Hot Tub", "Free Wifi", "Breakfast Included","Lake View", "Full service
Spa"]]],[["Hotel Lakend", 12400, "17,700 Rs", ["AC King Sized Bedroom", "Pool", "Spa",
"BathTub", "Free Wifi", "Breakfast Included", "Gym"]], ["Shiv Nivas Palace", 15340,
"20,400 Rs", ["AC King Sized Bedroom", "Pool", "Game Zone", "Lake View", "Free Wifi",
"Breakfast Included"]]], [["Hotel Royal Palm", 2300, "7,500 Rs", ["AC King Sized
Bedroom", "Free Parking", "BathTub", "Free Wifi", "Breakfast Included"]], ["Lake Pichola
Hotel", 5551, "9,500 Rs", ["AC King Sized Bedroom", "Pool", "Lake View", "Free Wifi",
"Free Parking","Rooftop Restaurant"]]]]

brag = [10000, 15000, 17000, 7000,20000]

def packages(z):
    print("HOTEL DETAILS:\n",z[0]," :  Our Price - ",z[2], "(4Night)"," \t Market Price -
",z[1]+ random.choice(brag),"Rs (4Night)")
    print("\tAnemities :\n", end="\t\t")
    for i in range(len(z[3])):
        print("->",z[3][i], end='\t')
        if (i+1)%4 ==0:
            print(end="\n\t\t")
    print("\n\tTourism Spots covered:\n\tLakes :", end="\n\t\t")
```

```python
    x=0
    for i in random.sample(Lakes, 5):
        print("->",i, end= '\t')
        x+=1
        if x%3==0 and x!=0:
            print(end="\n\t\t")
    print("\n\tHistorical Places :",end="\n\t\t")
    x = 0
    for i in random.sample(Historical, 10):
        print("->",i, end='\t\t')
        x += 1
        if x % 3 == 0 and x!=0:
            print(end="\n\t\t")
    print("\n\tHills Covered :",end="\n\t\t")
    x = 0
    for i in random.sample(Sites, 2):
        print("->",i, end='\t')
        x += 1
        if x % 3 == 0 and x!=0:
            print(end="\n\t\t")
    print("\n\tSeasonal Fests (if available) :", end="\n\t\t")
    for i in Seasonal:
        print("->",i, end='\t')
    print('\n')



def hoteldeets(z):
    print(z[0]," :\t",z[1],"Rs (Per Night)")
    print("\tAnemities :", end="\t\t")
```

```python
    for i in range(len(z[3])):

        print(z[3][i], end=',\t')

    print("\n")

def Whatuwannado():

    print("\nTell me What can I do for you?\n1. Recommend a Tourist Spot\n2. Recommend
some good Restaurants\n3. Tell some Good Hotels\n4. Checkout Our Exclusive Packages\n5.
Exit")

    u = int(input("Your Choice: "))

    return u

print("\Welcome! I am your ChatBot, l am here to help you have a wonderful experience in
my Favourite City Udaipur!")

#print(len(Historical))

while True:

    u= Whatuwannado()

    if u==1:

        print("\nHere are some Top Rated Places to visit: ")

        for i in random.sample(Lakes, 2):

            print("->", i, end='\t\t')

        for i in random.sample(Sites, 1):

            print("->", i, end='\t\t')

        print(" ")

        for i in random.sample(Historical, 3):

            print("->", i, end='\t\t')

        print('\n->', Seasonal[1])

        print("\nIf you are looking for something specific, Please select:\n1. Lakes\n2. Site
Seeing\n3. Historical Places\n4. Seasonal Spots\n5. Main menu\n6. Say Goodbye\n")

        x=int(input("Your Choice: "))

        if(x==1):

            print("\nHere's the list of Top 7 Lakes in the City", end='\n\t')

            for i in range(len(Lakes)):

                print("->", Lakes[i], end='\t\t')
```

```python
            if i%3==0 and i!=0:
                print(" ",end="\n\t")
        elif x==2:
            print("\nHere's the list of Top 7 Lakes in the City", end='\n\t')
            for i in range(len(Sites)):
                print("->", Sites[i], end='\t\t')
                if i%3==0 and i!=0:
                    print(" ")
        elif x==3:
            print("\nHere's the list of Top 14 Historical Places of the City", end='\n\t')
            for i in range(len(Historical)):
                print("->", Historical[i], end='\t\t')
                if i%3==0 and i!=0:
                    print(" ",end="\n\t")
        elif x == 4:
            print("\nHere's the list of some Famous Seasonal Fests in the City", end='\n\t')
            print("->", Seasonal[0], '\t\t', Seasonal[1])
        elif x == 5:
            continue
        elif x==6:
            print("\nTime to say Goodbye YoY.... Hope to see u soon\n B-byee", end='\n\t')
            quit()
    elif u==2:
        print("\nHere are some Top Recommended Restaurants: ", end='\n\t')
        z=random.sample(Rest[0], 2)
        print("->", z[0],'\t\t->', z[1], end='\n\t')
        z = random.sample(Rest[1], 1)
        print("->", z[0], end='\t\t')
        z = random.sample(Rest[2], 1)
```

```python
    print("->", z[0])
    print(("\nPlease Select your price range for better recommendation:\n1. Royal (Cost for two: 3,500 Rs)\n2. Premium(Cost for two: 1,500 Rs)\n3. Classic (Cost for two: 700 Rs)\n4. Return to Main menu\n5. Say Goodbye\n"))
    x=int(input("Your Choice: "))
    if(x==1):
        print("Here's a list of Royal Restaurants of the City",end="\n\t")
        for i in range(len(Rest[0])):
            print("->", Rest[0][i], end='\t\t')
            if (i+1)%2==0:
                print(" ",end="\n\t")
    elif x==2:
        print("Here's a list of Best Premium Restaurants of the City", end="\n\t")
        for i in range(len(Rest[1])):
            print("->", Rest[1][i], end="\t\t")
            if (i + 1) % 2 == 0:
                print(" ", end="\n\t")
    elif x==3:
        print("Here's a list of Top Classic Restaurants and Foodspots of the City", end="\n\t")
        for i in range(len(Rest[2])):
            print("->", Rest[2][i], end="\t\t")
            if (i + 1) % 2 == 0:
                print(" ", end="\n\t")
    elif x == 4:
        continue
    elif x==5:
        print("\nTime to say Goodbye YoY.... Hope to see u soon\n B-byee")
        quit()
    #   print("Here's the list of some Famous Seasonal Fests in the City")
    #   print(Seasonal[0], '\t', Seasonal[1])
```

```python
    elif u==3:

        print("\nHere are some Handpicked Hotels you may like: ")

        z=random.sample(Hotel[0], 1)

        hoteldeets(z[0])

        z = random.sample(Hotel[1], 1)

        hoteldeets(z[0])

        z = random.sample(Hotel[2], 1)

        hoteldeets(z[0])

        print("\nPlease Select your hotel price range for better recommendation:\n1. Royal (Cost Per Night: 45,500 Rs)\n2. Premium(Cost Per Night: 15,500 Rs)\n3. Classic (Cost Per Night: 5,000 Rs)\n4. Return to Main menu\n6. Say Goodbye\n")

        x=int(input("Your Choice: "))

        if(x==1):

            print("\nHere's a list of Handpicked Royal Hotels for you :")

            for i in range(len(Hotel[0])):

                hoteldeets(Hotel[0][i])

        elif x==2:

            print("\nHere's a list of Best Premium Restaurants Hotels for you :")

            for i in range(len(Hotel[1])):

                hoteldeets(Hotel[1][i])

        elif x==3:

            print("\nHere's a list of Top Classic Hotels for you :")

            for i in range(len(Hotel[2])):

                hoteldeets(Hotel[1][i])

        elif x==4:

            continue

        elif x==5:

            print("\nTime to say Goodbye YoY.... Hope to see u soon\n B-byee")

            quit()

    elif u == 4:
```

```python
    print("\nOur Best 3 Handpicked Packages are: ")
    z=random.sample(Hotel[0], 1)
    print("Package I - ")
    packages(z[0])
    z = random.sample(Hotel[1], 1)
    print("Package II - ")
    packages(z[0])
    z = random.sample(Hotel[2], 1)
    print("Package III - ")
    packages(z[0])


    print("\nPlease Select your Trip price range for better recommendation:\n1. Royal Pack (Cost 4Night Trip: 56,000 Rs)\n2. Premium(Cost 4Night Trip: 18,000 Rs)\n3. Classic (Cost 4Night Trip: 8,000 Rs)\n4. Return to Main menu\n5. Nvm I just go to sleep(exit)\n")
    x = int(input("Your Choice: "))
    if (x == 1):
        print("\nHere's a list of Handpicked Royal Hotels for you :",end=' ')
        for i in range(len(Hotel[0])):
            print("\n\nPackage ",i+1,end=". - \n")
            packages(Hotel[0][i])
    elif x == 2:
        print("\nHere's a list of Best Premium Restaurants Hotels for you :")
        for i in range(len(Hotel[1])):
            print("\n\nPackage ",i+1,end=". - \n")
            packages(Hotel[1][i])
    elif x == 3:
        print("\nHere's a list of Top Classic Hotels for you :")
        for i in range(len(Hotel[2])):
            print("\n\nPackage ",i+1,end=". -\n")
            packages(Hotel[1][i])
```

```
    elif x==4:

        continue

    elif x==5:

        print("\nTime to say Goodbye YoY.... Hope to see u soon\n B-byee")

        quit()

    elif u==5:

        quit()
```

Screenshots of the Outputs:

```
\Welcome! I am your ChatBot, l am here to help you have a wonderful experience in my Favourite City Udaipur!

Tell me What can I do for you?
1. Recommend a Tourist Spot
2. Recommend some good Restaurants
3. Tell some Good Hotels
4. Checkout Our Exclusive Packages
5. Exit
Your Choice: 2

Here are some Top Recommended Restaurants:
        -> Tribute              -> HaveliKabab
        -> ADCafe RaJheel's            -> Rainbow Restaurant

Please Select your price range for better recommendation:
1. Royal (Cost for two: 3,500 Rs)
2. Premium(Cost for two: 1,500 Rs)
3. Classic (Cost for two: 700 Rs)
4. Return to Main menu
5. Say Goodbye

Your Choice: 2
Here's a list of Best Premium Restaurants of the City
        -> Restaurant1559              -> ADCafe RaJheel's
        -> Rooftop Restaurant          -> Rainbow Restaurant

Tell me What can I do for you?
1. Recommend a Tourist Spot
2. Recommend some good Restaurants
3. Tell some Good Hotels
4. Checkout Our Exclusive Packages
5. Exit
```

Signature of the Student

[YUVRAJ SINGH CHAUHAN]