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Batch: C

SY COMPS

Experiment 4

AIM: Write a contact application using dictionary in python.

THEORY:

1. Here a nested dictionary is used.
Dictionaries are mutable data structures that allow you to store key-value pairs. Dictionary can be created using the dict() constructor or curly braces '{}'. Once you have created a dictionary, you can add, remove, or update elements using the methods dict.
2. Various applications to be performed are:
 - a. Insertion of a contact.
 - b. Deletion of a particular contact.
 - c. Updation of a particular contact.
 - d. Printing the entire contact application.
 - e. Searching for a particular contact in a contact application.
 - f. Exiting the contact application.
3. The details which are taken up from the users are: name, contact number, birthday, email address and age.
4. Modularity is maintained in the entire code and switch case is used to access different functions in the code.
5. Also the re is imported to check if the email address entered by the user is of correct format.
6. Lastly, int keyword is used to take correct integer input from the user for age and contact number.

CODE:

1. Insertion and printing the dictionary:

```
def insert():
    print("Enter your details")
    name=input("name: ")
    contact_no=int(input("contact_no.: "))
    email_id=input("Email-id: ")

    if re.match(r"^[^@]+@[^@]+\.[^@]+$", email_id):
        age=int(input("Age: "))
        birth_day=input("D.O.B: ")
        contact_application[name] = {
            "Contact no.:" : contact_no,
            "Email-Id:" : email_id,
            "Age:" : age,
            "Birth-Day": birth_day
        }

    else:
        email_id1=input("Wrong email address, please enter the correct one: ")
        age=int(input("Age: "))
        birth_day=input("D.O.B: ")
        contact_application[name] = {
            "Contact no.:" : contact_no,
            "Email-Id:" : email_id1,
            "Age:" : age,
            "Birth-Day": birth_day
        }

def print_dict():
    if(not contact_application):
        print("Sorry!! can't display anything since the dictionary is empty ")
    else:
        print(contact_application)
```

```
9 print("Type U to update a contact\nType P to print the details of existing contact\nType E to exit the application")
10
11 def home():
12     print("HOME\nWelcome to contact_application")
13
14 def insert():
15     print("Enter your details")
16     name=input("name: ")
17     contact_no=int(input("contact_no.: "))
18     email_id=input("Email-id: ")
19
20     if re.match(r"^[^@]+@^[^@]+\.[^@]+$", email_id):
21         age=int(input("Age: "))
22         birth_day=input("D.O.B: ")
23         contact_application[name] = {
24             'Contact no.': contact_no,
25             'Email-Id.': email_id,
```

Type P to print the details of existing contact
Type E to exit the application
Enter the action you want to perform according to the guidelines: I
Enter your details
name: siddhi
contact_no.: 7890345672
Email-id: shpare
Wrong email address, please enter the correct one: shparekh@gmail.com
Age: 19
D.O.B: 25/01/2004
Enter the action you want to perform according to the guidelines: I
Enter your details
name: vanshika
contact_no.: 7894561236
Email-id: vanshikal@gmail.com
Age: 20
D.O.B: 26/8/200
Enter the action you want to perform according to the guidelines: P
{'siddhi': {'Contact no.': 7890345672, 'Email-Id': 'shparekh@gmail.com', 'Age': 19, 'Birth-Day': '25/01/2004'}, 'vanshika': {'Contact no.': 7894561236, 'Email-Id': 'vanshikal@gmail.com', 'Age': 20, 'Birth-Day': '26/8/200'}}
Enter the action you want to perform according to the guidelines: []

2. Searching for a contact using the name of the contact:

def search():

 search = input("Enter the name of the person: ")

 print(contact_application[search])

The screenshot shows a code editor with Python code and a terminal window. The code defines a `search()` function that prompts the user for a name and prints the details of the corresponding contact from a dictionary `contact_application`. The terminal output shows the user interacting with the application, following the guidelines to enter details for a new contact, then searching for a specific contact by name. The search results show details for two contacts: Siddhi and Vanshika.

```

40
41 - def search():
42     search = input("Enter the name of the person: ")
43     print(contact_application[search])
44
input
Guidelines:
Type I to enter the details of new contact
Type S to search for details of a person
Type D to delete existing contact
Type U to update a contact
Type P to print the details of existing contact
Type E to exit the application
Enter the action you want to perform according to the guidelines: I
Enter your details
name: siddhi
contact_no.: 78956241369
Email-id: shpare
Wrong email address, please enter the correct one: shparekh_b22@c.vjti.ac.in
Age: 19
D.O.B: 25/02/2004
Enter the action you want to perform according to the guidelines: I
Enter your details
name: vanshika
contact_no.: 8569741256
Email-id: vanshikal@gmail.com
Age: 20
D.O.B: 26/8/2004
Enter the action you want to perform according to the guidelines: P
{'siddhi': {'Contact no.': '78956241369', 'Email-Id': 'shparekh_b22@c.vjti.ac.in', 'Age': '19', 'Birth-Day': '25/02/2004'}, 'vanshika': {'Contact n
o.': '8569741256', 'Email-Id': 'vanshikal@gmail.com', 'Age': '20', 'Birth-Day': '26/8/2004'}}
Enter the action you want to perform according to the guidelines: S
Enter the name of the person: siddhi
{'Contact no.': '78956241369', 'Email-Id': 'shparekh_b22@c.vjti.ac.in', 'Age': '19', 'Birth-Day': '25/02/2004'}
Enter the action you want to perform according to the guidelines:

```

3. Updating a particular contact:

```

def update():
    if(not contact_application):
        print("Sorry!! can't update anything since the dictionary is empty ")
    else:
        detail = input("Enter the details of contact you want to update: ")
        del contact_application[detail]
        print("Now Again")
        insert()
        a=input("Do you want to see the revised contact_application (y/n")
        if(a=='y'):
            print(contact_application)
        else:
            home()

```



```
You need to verify email to use all features of IDE. Follow instruction on this page to verify email.
Run Debug Stop Share Save {} Beautify
Language Python 3

51 def delete():
52     if(not contact_application):
53         print("Sorry!! can't delete anything since the dictionary is empty ")
54     else:
55         detail=input("Enter contact you want to delete detail of: ")
56         del contact_application[detail]
57         a=input("Do you want to see the revised contact_application (y/n")
58         if(a=='y'):
59             print(contact_application)
60         else:
61             home()

input
Type U to update a contact
Type P to print the details of existing contact
Type E to exit the application
Enter the action you want to perform according to the guidelines: D
Sorry!! can't delete anything since the dictionary is empty
Enter the action you want to perform according to the guidelines: I
Enter your details
name: siddhi
contact_no.: 2345689013
Email-id: shparekh
Wrong email address, please enter the correct one: shparekh1@gmail.com
Age: 19
D.O.B: 25/01/2004
Enter the action you want to perform according to the guidelines: I
Enter your details
name: vanshika
contact_no.: 7894561239
Email-id: 19
Wrong email address, please enter the correct one: vashika2@gmail.com
Age: 19
D.O.B: 24/8/2004
Enter the action you want to perform according to the guidelines: D
Enter contact you want to delete detail of: vanshika
Do you want to see the revised contact_application (y/ny
{'siddhi': {'Contact no.': 2345689013, 'Email-Id.': 'shparekh1@gmail.com', 'Age:': 19, 'Birth-Day': '25/01/2004'}}
Enter the action you want to perform according to the guidelines: 
```

5. Exiting the contact dictionary:

```
elif(user == 'E'):
```

```
    break
```

```
Enter the action you want to perform according to the guidelines: E
Contact Us • GDB
...Program finished with exit code 0
Press ENTER to exit console.
```

THE ENTIRE CODE:

```
import re

#regex = re.compile(r'([A-Za-z0-9]+[-_])*[A-Za-z0-9]+@[A-Za-z0-9-]+\.[A-Z|a-z]{2,})+')

contact_application = {}

print("Guidelines:")
print("Type I to enter the details of new contact\nType S to search for details of a person\nType D to delete existing contact")
print("Type U to update a contact\nType P to print the details of existing contact\nType E to exit the application")

def home():
    print("HOME\nWelcome to contact_application")

def insert():
    print("Enter your details")
    name=input("name: ")
    contact_no=int(input("contact_no.: "))
    email_id=input("Email-id: ")

    if re.match(r"^[^@]+@^[^@]+\.[^@]+$", email_id):
        age=int(input("Age: "))
        birth_day=input("D.O.B: ")
        contact_application[name] = {
            "Contact no.:" : contact_no,
            "Email-Id:" : email_id,
            "Age:" : age,
            "Birth-Day": birth_day
        }
    else:
        email_id1=input("Wrong email address, please enter the correct one: ")
        age=int(input("Age: "))
        birth_day=input("D.O.B: ")
        contact_application[name] = {
            "Contact no.:" : contact_no,
            "Email-Id:" : email_id1,
            "Age:" : age,
            "Birth-Day": birth_day
        }

def search():
```

```
search = input("Enter the name of the person: ")
print(contact_application[search])
```

```
def print_dict():
    if(not contact_application):
        print("Sorry!! can't display anything since the dictionary is empty ")
    else:
        print(contact_application)
```

```
def delete():
    if(not contact_application):
        print("Sorry!! can't delete anything since the dictionary is empty ")
    else:
        detail=input("Enter contact you want to delete detail of: ")
        del contact_application[detail]
        a=input("Do you want to see the revised contact_application (y/n) ")
        if(a=='y'):
            print(contact_application)
        else:
            home()
```

```
def update():
    if(not contact_application):
        print("Sorry!! can't update anything since the dictionary is empty ")
    else:
        detail = input("Enter the details of contact you want to update: ")
        del contact_application[detail]
        print("Now Again")
        insert()
        a=input("Do you want to see the revised contact_application (y/n) ")
        if(a=='y'):
            print(contact_application)
        else:
            home()
```

```
while(True):

    user = input("Enter the action you want to perform according to the guidelines: " )

    if(user == 'I'):
        insert()

    elif(user == 'S'):
        search()
```



```
elif(user == 'P'):  
    print_dict()
```

```
elif(user == 'D'):  
    delete()
```

```
elif(user == 'E'):  
    break
```

```
elif(user == 'U'):  
    update()
```

CONCLUSION:

1. Hence, modularity is learnt.
2. Usage of regex is learnt.
3. Concepts of nested dictionaries are cleared.
4. Use of switch cases in python is also learnt.