PROGRAM: Python program to demonstrate use of packages.

The Packages:

```
class Profile:
    def __init__(self,name,age,dob):
        self.name=name
        self.age=age
        self.dob=dob
class Qualification:
    def __init__(self,degree,experience):
        self.degree=degree
        self.experience=experience
class Salary:
    def __init__(self,pf,basic,hra):
        self.basic=basic
        self.hra=hra
        self.pf=pf
```

Main File

```
from my_packages.Account.Salary import Salary
from my_packages.Employee.Qualification import Qualification
from my_packages.Employee.Profile import Profile

n=int(input("Enter the number of Employees:"))
employee_list=[]

for emp in range(n):
    print(f"Enter details of Employee {emp+1}:")
    name=input("Enter Name:")
    age=input("Enter Age :")
    dob=input("Enter Date of Birth :")
    degree=input("Enter Degree:")
    experience=input("Enter Experience:")
```

```
    pf=int(input("Enter PF:"))
    basic_pay=int(input("Enter Basic Pay:"))
    hra=int(input("Enter HRA:"))
    print("\n")

    emp_profile=Profile(name,age,dob)
    emp_qualification=Qualification(degree,experience)
    emp_slalry=Salary(pf,basic_pay,hra)

    total_salary=basic_pay + hra - pf

    new_employee=[emp_profile,emp_qualification,emp_slalry,total_salary]
    employee_list.append(new_employee)

print("Name \t Age \t DOB \t Degree \t Exp \t Basic \t HRA \t PF \t SALARY \n")

for emp in employee_list:

print(emp[0].name,emp[0].age,emp[0].dob,emp[1].degree,emp[1].experience,emp[2].basic,emp[2].
hra,emp[2].pf,emp[3],sep=' \t ')
```

OUTPUT:

```
Enter the number of Employees:3
Enter details of Employee 1:
Enter Name:Niyati
Enter Age :20
Enter Date of Birth :16-05-2003
Enter Degree:BTech
Enter Experience:3
Enter PF:3000
Enter Basic Pay:30000
Enter HRA: 2000
```

Enter details of Employee 2:

Enter Name:Kaveri

Enter Age :30

Enter Date of Birth :12-03-2003

Enter Degree:BSc

Enter Experience:5

Enter PF:2500

Enter Basic Pay:15000

Enter HRA:3000

Enter details of Employee 3:

Enter Name:Soweda

Enter Age :25

Enter Date of Birth :25-12-2003

Enter Degree:BCom

Enter Experience:5

Enter PF:2000

Enter Basic Pay:20000

Enter HRA: 3000

Name	Age	DOB	Degree	Exp	Basic	HRA	PF	SALARY
Niyati	20	16-05-2003	BTech	3	30000	2000	3000	29000
Kaveri	30	12-03-2003	BSc	5	15000	3000	2500	15500
Soweda	25	25-12-2003	BCom	5	20000	3000	2000	21000

PROGRAM: To demonstrate use of regular expression(Indian cities)

```
import re

cities = "Mumbai Surat Delhi Chennai Kolkata Hyderabad Bangalore Jaipur Ahmedabad Pune Madras Lucknow"

print("The List of cities:")

print(cities)

pattern1 = r"\b\w+ai\b"

matches1 = re.findall(pattern1, cities)

print("Cities ending with 'ai':", matches1)


pattern2 = r"\b[Ma|Mu]\w+\b"

matches2 = re.findall(pattern2, cities)

print("Cities starting with 'Mu' or 'Ma':", matches2)


pattern3 = r"\b\w[u|U]\w*[a|A]\w\b"

matches3 = re.findall(pattern3, cities)

print("Cities with 'u' as second letter and 'a' as second last letter:", matches3)
```

OUTPUT:

```
The List of cities:

Mumbai Surat Delhi Chennai Kolkata Hyderabad Bangalore Jaipur Ahmedabad Pune Madras Lucknow

Cities ending with 'ai': ['Mumbai', 'Chennai']

Cities starting with 'Mu' or 'Ma': ['Mumbai', 'Madras']

Cities with 'u' as second letter and 'a' as second last letter: ['Mumbai', 'Surat']
```

PROGRAM: To demonstrate use of regular expression(Phone Book)

```
import re
with open("phone_list.txt", "r") as file:
   phone_list = file.readlines()
print("The Phone-Book ")
print(phone_list)


pattern = r"Rao\s+[J|K]\w*\s+\d+"
matches = []
for line in phone_list:
   match = re.search(pattern, line)
   if match:
      matches.append(match.group())
print("Entries with surname as 'Rao' and first name starting with 'J' or 'K':")
for match in matches:
   print(match)
```

OUTPUT:

```
The Phone-Book
['Ratnakar Siddhartha 0123456789\n', 'Rao Amit 2345167890\n', 'Revankar Niyati 1239876540\n', 'Kadam Suvarna 2261826448\n', 'Powar Pooja 8247755235\n', 'Singh Dinesh 2472752358\n', 'Rao Jagannath 8734736812\n', 'Shah Aryansh 2351789062\n', 'Naik Chaya 6789023451\n', 'Jadhav Shewta 769848759\n', 'Raut Omkar 1239876540\n', 'Rao Kasturi 8355912243\n', 'Gupta Shikha769848759\n', 'Savant Siya 1328901052\n', 'RaoRatan Ramesh 7698487598\n', '\n']
Entries with surname as 'Rao' and first name starting with 'J' or 'K':
Rao Jagannath 8734736812
Rao Kasturi 8355912243
```