

Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA Batch - 41
FP Practical 4

Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub: (2CSE403) FUNCTIONAL PROGRAMMING

Practical 4

1. A bank needs to validate authentication of the customers who have their accounts in it. Verification has to be done by analyzing the details entered by the customers; i.e. Bank should identify whether the details provided by customer are correct or not? Also depending on user age details, it should provide the future savings schemes.

Note: Check the previous enter detail data type compare with required data (Like Name, Address, Contact no, Pin code, Hobbies, Life goal). Create multiple user account and check user enter name and their age category. If kid guide for education camps schemes, if teenager provide educational scholarship scheme and is middle aged guide for retirement plans.

Code:

```
import string

def bnkusr():
    print("\n\tWelcome to Kadi Nagarik Sahakari Bank Limited!\n")
    name = input("Enter your name : ")
    for i in name:
        while i not in string.ascii_letters + " ":
```

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```
name = input("Please enter valid name : ")

addr: str = input("Enter your address : ")

cntct = input("Enter your contact : ")
while len(cntct) != 10 or not cntct.isdigit():
    cntct = input("Enter your valid contact : ")
cntct = int(cntct)

pin = input("Enter your pincode : ")
while len(pin) != 6 or not pin.isdigit():
    pin = input("Enter your valid pincode : ")
pin = int(pin)

hbs: str = input("Enter your hobbies : ")

goal: str = input("Enter your Life goal : ")

age = int(input("Enter your age : "))
while age < 0:
    age = int(input("Enter your valid age : "))

return name, cntct, addr, age, hbs, goal
```

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```
def schemes(name, cntct, addr, age, hbs, goal):  
    if age ≤ 12:  
        scheme = "You are eligible for Educational Camp Schemes :  
https://www.india.gov.in/people-groups/life-cycle/kids"  
    elif age ≤ 19 and age > 12:  
        scheme = "You are eligible for Educational Scholarship Schemes :  
https://www.aicte-india.org/schemes/students-development-schemes"  
    else:  
        scheme = "You are eligible for Retirement Plans :  
https://www.policybazaar.com/life-insurance/pension-plans/"  
  
    return name, cntct, addr, age, scheme, hbs, goal  
  
def setDetails():  
    n = int(input("Enter how many person want to register : "))  
    details = {}  
    users = []  
    for i in range(n):  
        name, cntct, addr, age, hbs, goal = bnkusr()  
        name1, cntct1, addr1, age1, scheme1, hbs1, goal1 = schemes(name,  
cntct, addr, age, hbs, goal)  
        details["Name"] = name1
```

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```
        details["Age"] = age1
        details["Contact"] = cntct1
        details["Address"] = addr1
        details["Hobbies"] = hbs1
        details["Life Goal"] = goal1
        details["Scheme"] = scheme1
        users.append(details)

        i = i + 1

    return users

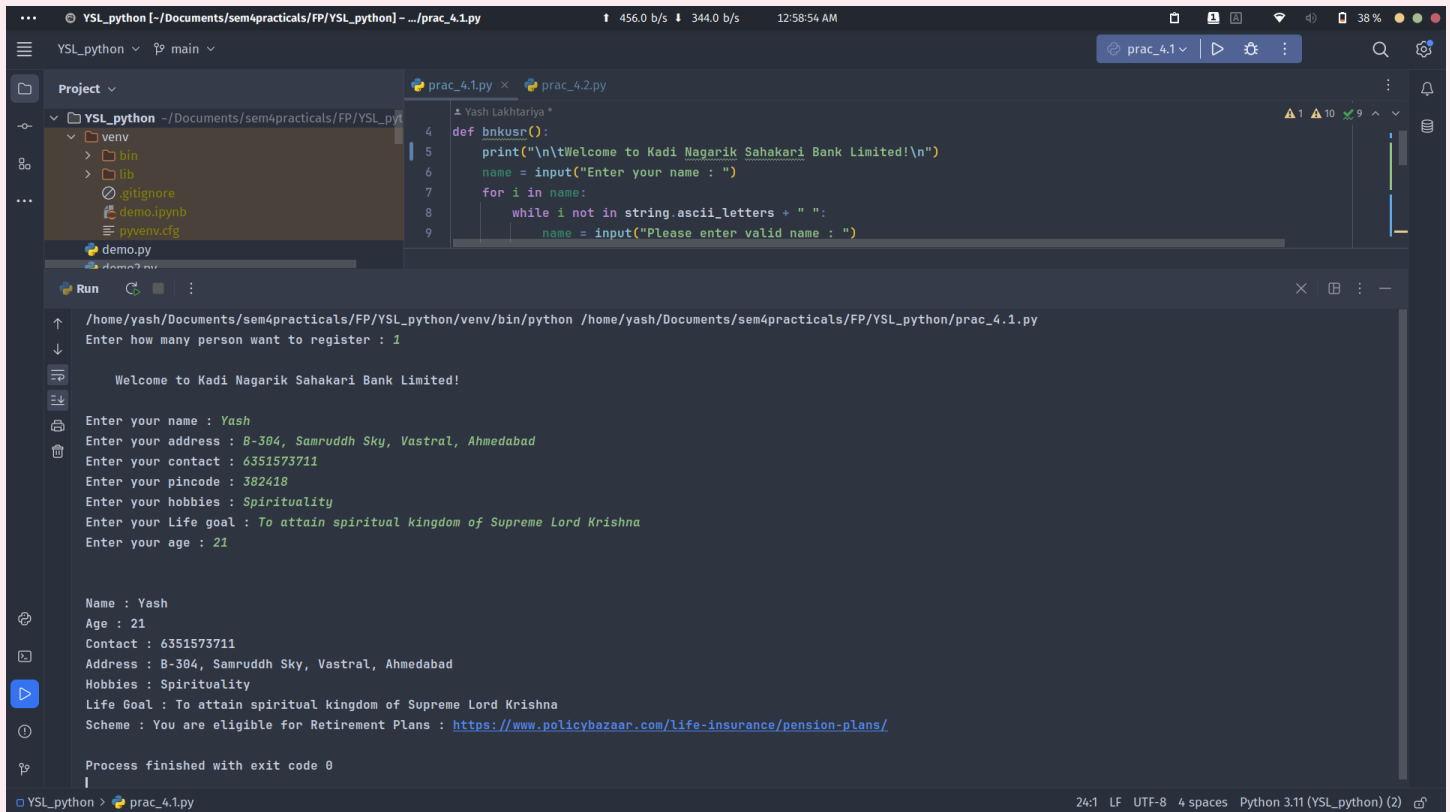
def getDetails(users: list):
    print("\n")
    for i in range(len(users)):
        for k, v in users[i].items():
            print(f"{k} : {v}")

        i = i + 1

users = setDetails()
getDetails(users)
```

Output :

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The screenshot shows a VS Code editor with a project named 'YSL_python'. The file explorer on the left shows a 'venv' directory and a 'demo.py' file. The main editor window displays a Python script named 'prac_4.1.py' with the following code:

```
1 Yash Lakhtariya *
2
3
4 def bnkusr():
5     print("\n\tWelcome to Kadi Nagarik Sahakari Bank Limited!\n")
6     name = input("Enter your name : ")
7     for i in name:
8         while i not in string.ascii_letters + " ":
9             name = input("Please enter valid name : ")
```

The Run and Debug console at the bottom shows the execution of the script. It prompts the user to enter how many people want to register (1), then displays a welcome message and asks for personal details. The output shows the user's input for each field, followed by a summary of the entered information and a link to retirement plans.

```
/home/yash/Documents/sem4practicals/FP/YSL_python/venv/bin/python /home/yash/Documents/sem4practicals/FP/YSL_python/prac_4.1.py
Enter how many person want to register : 1

Welcome to Kadi Nagarik Sahakari Bank Limited!

Enter your name : Yash
Enter your address : B-304, Samruddh Sky, Vastral, Ahmedabad
Enter your contact : 6351573711
Enter your pincode : 382418
Enter your hobbies : Spirituality
Enter your Life goal : To attain spiritual kingdom of Supreme Lord Krishna
Enter your age : 21

Name : Yash
Age : 21
Contact : 6351573711
Address : B-304, Samruddh Sky, Vastral, Ahmedabad
Hobbies : Spirituality
Life Goal : To attain spiritual kingdom of Supreme Lord Krishna
Scheme : You are eligible for Retirement Plans : https://www.policybazaar.com/life-insurance/pension-plans/

Process finished with exit code 0
```

2. Pangrams are words or sentences containing every letter of the alphabet at least once. A student is asked to check whether a string is a pangram or not. Help him to do so. For example: "The quick brown fox jumps over the lazy dog".

Code :

```
ysl = input("Enter a statement : ")
alpha =
{'a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z'}
ysl = ysl.lower()
for i in ysl:
    if i in alpha:
```

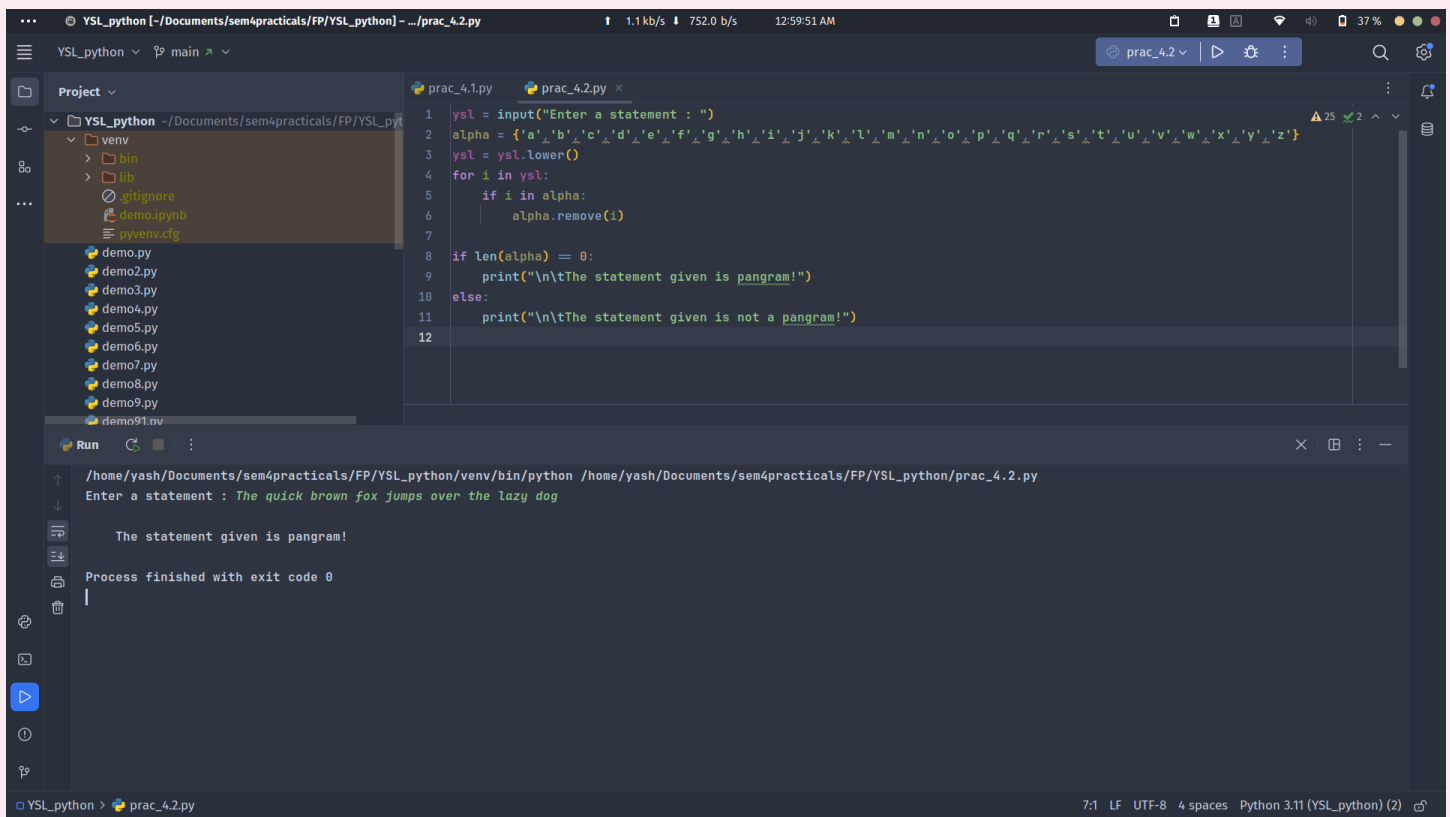
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```
        alpha.remove(i)

if len(alpha) == 0:
    print("\n\tThe statement given is pangram!")
else:
    print("\n\tThe statement given is not a pangram!")
```

Output :

(Pangram)



The screenshot shows a code editor with a project named 'YSL_python' located at '~ / Documents / sem4practicals / FP / YSL_python'. The project contains a 'venv' directory with 'bin', 'lib', and 'pyvenv.cfg' files, and a series of 'demo.py' files from 'demo1.py' to 'demo9.py'. The active file is 'prac_4.2.py', which contains the following Python code:

```
1 ysl = input("Enter a statement : ")
2 alpha = {'a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z'}
3 ysl = ysl.lower()
4 for i in ysl:
5     if i in alpha:
6         alpha.remove(i)
7
8 if len(alpha) == 0:
9     print("\n\tThe statement given is pangram!")
10 else:
11     print("\n\tThe statement given is not a pangram!")
12
```

The output of the program is displayed in the Run console:

```
/home/yash/Documents/sem4practicals/FP/YSL_python/venv/bin/python /home/yash/Documents/sem4practicals/FP/YSL_python/prac_4.2.py
Enter a statement : The quick brown fox jumps over the lazy dog

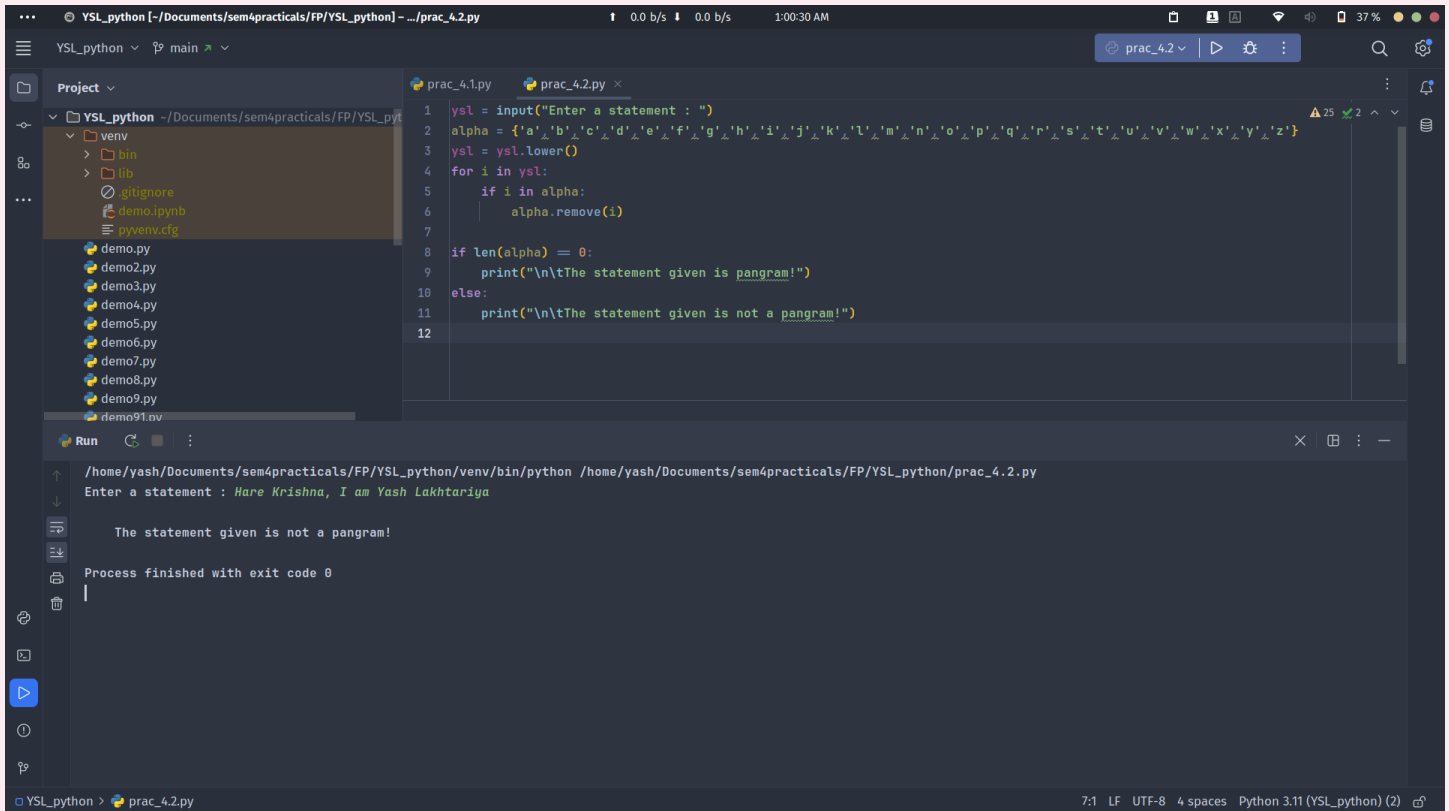
The statement given is pangram!

Process finished with exit code 0
```

The status bar at the bottom indicates the file is 'prac_4.2.py' in the 'YSL_python' project, using Python 3.11, with 7 lines of code, 1 function, 4 spaces, and 2 comments.

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(Not pangram)



The screenshot displays a VS Code editor window with a project named 'YSL_python' located at '/Documents/sem4practicals/FP/YSL_python'. The file explorer on the left shows a directory structure with 'venv' and several 'demo.py' files. The main editor area shows a Python script 'prac_4.2.py' with the following code:

```
1 ysl = input("Enter a statement : ")
2 alpha = {'a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z'}
3 ysl = ysl.lower()
4 for i in ysl:
5     if i in alpha:
6         alpha.remove(i)
7
8 if len(alpha) == 0:
9     print("\nThe statement given is pangram!")
10 else:
11     print("\nThe statement given is not a pangram!")
12
```

Below the editor, the 'Run' panel shows the execution output:

```
/home/yash/Documents/sem4practicals/FP/YSL_python/venv/bin/python /home/yash/Documents/sem4practicals/FP/YSL_python/prac_4.2.py
Enter a statement : Hare Krishna, I am Yash Lakhtariya

The statement given is not a pangram!

Process finished with exit code 0
```

The status bar at the bottom indicates the file is 'prac_4.2.py' in 'Python 3.11 (YSL_python) (2)' using 'UTF-8' encoding with '4 spaces' for indentation.