

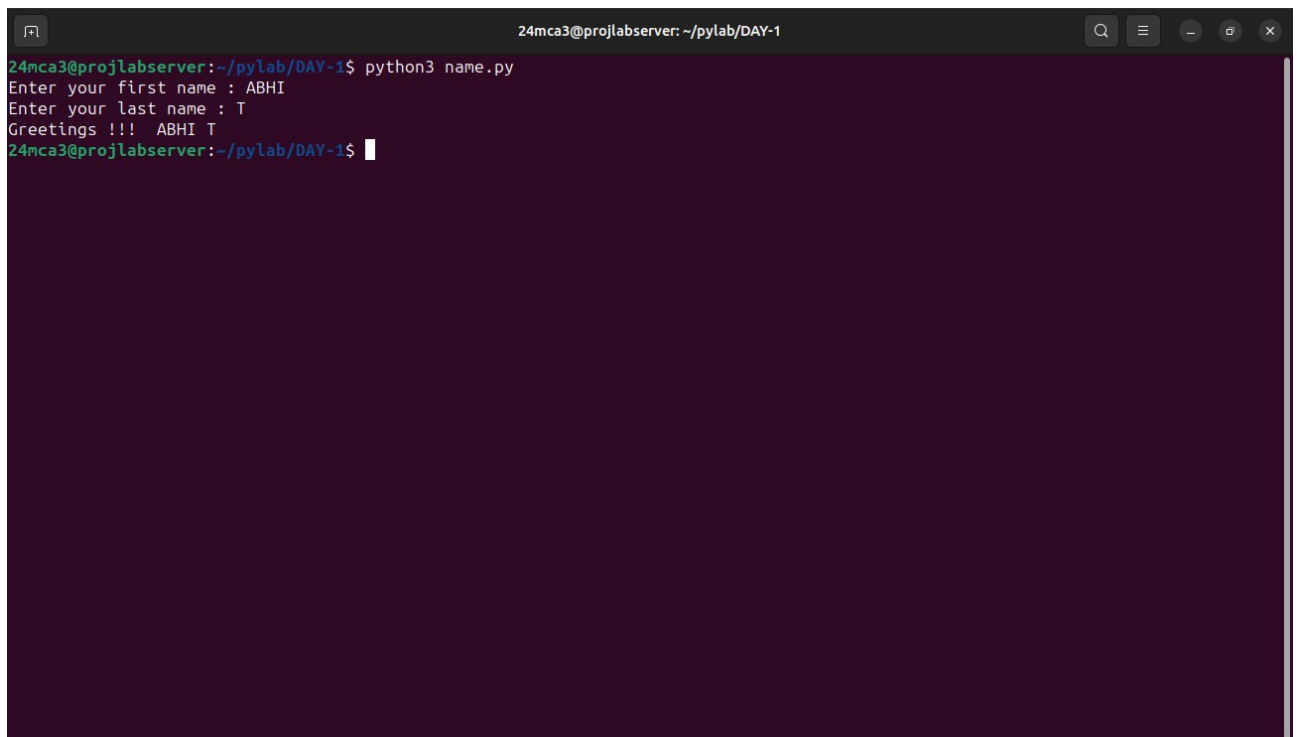
ABHIJITH T

ROLL NO : 3

PYTHON LAB – CYCLE – 1

1. Write a program that prompts the user to enter his first name and last name and then displays a message “Greetings!!! First name Last name”.

```
fname = input("Enter your first name : ")  
lname = input("Enter your last name : ")  
print("Greetings !!! ",fname,lname)
```

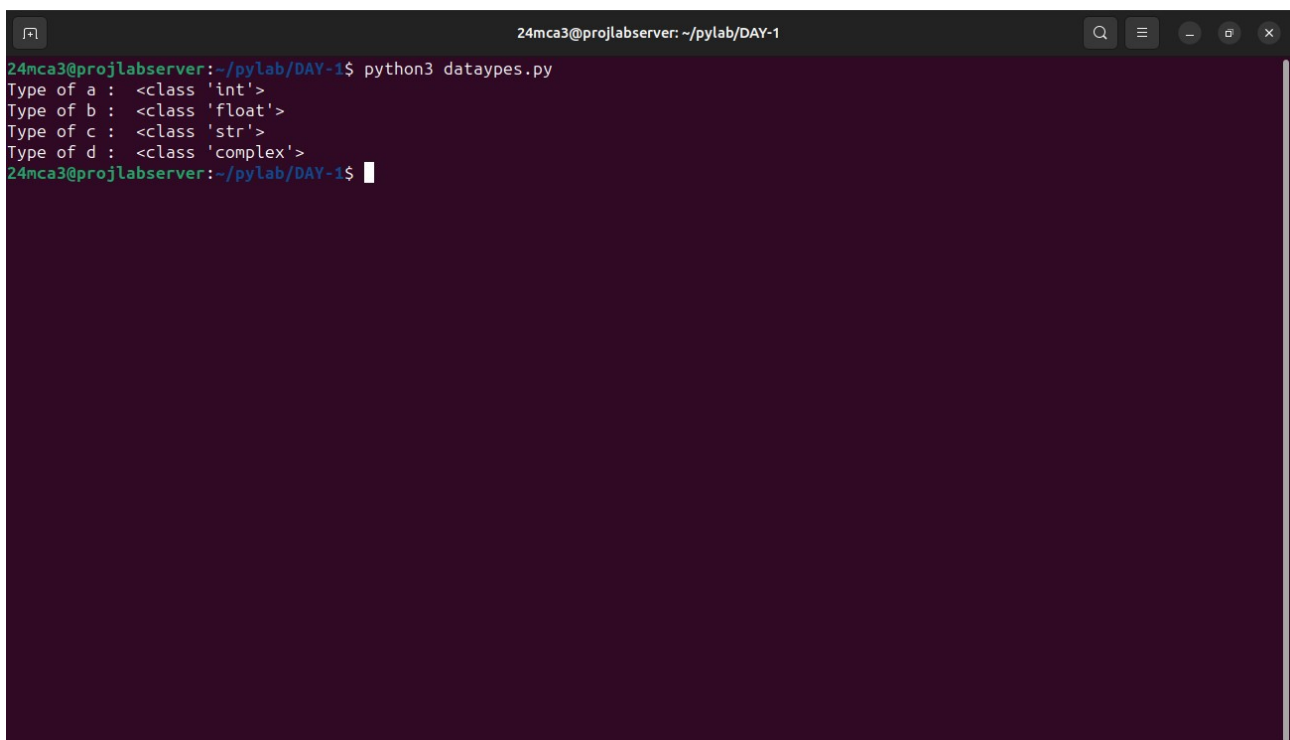


The screenshot shows a terminal window titled "24mca3@projlabserver: ~/pylab/DAY-1". The user has executed the command `python3 name.py`. The program prompts for the first name, which is entered as "ABHI", and then for the last name, which is entered as "T". The program then outputs "Greetings !!! ABHI T". The terminal window has a dark background and standard window controls at the top.

```
24mca3@projlabserver: ~/pylab/DAY-1  
24mca3@projlabserver:~/pylab/DAY-1$ python3 name.py  
Enter your first name : ABHI  
Enter your last name : T  
Greetings !!! ABHI T  
24mca3@projlabserver:~/pylab/DAY-1$
```

2. Write a program to demonstrate different number data types in python?

```
a = 23
b = 23.54
c = "Python"
d = 5 + 6j
print("Type of a : ", type(a))
print("Type of b : ", type(b))
print("Type of c : ", type(c))
print("Type of d : ", type(d))
```

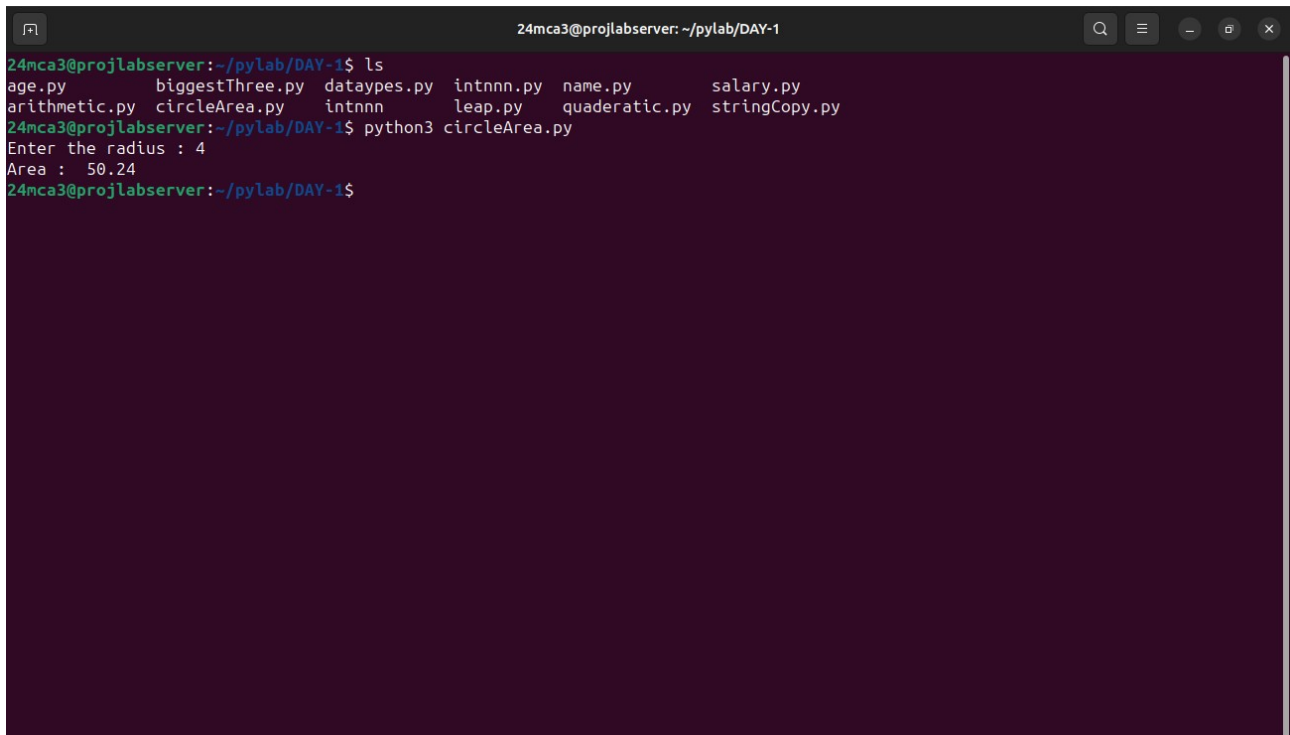


A terminal window titled "24mca3@projlabserver: ~/pylab/DAY-1" showing the execution of a Python script named "dataypes.py". The script defines four variables: 'a' (integer 23), 'b' (float 23.54), 'c' (string "Python"), and 'd' (complex number 5 + 6j). The script then prints the type of each variable. The output shows the following:

```
24mca3@projlabserver:~/pylab/DAY-1$ python3 dataypes.py
Type of a : <class 'int'>
Type of b : <class 'float'>
Type of c : <class 'str'>
Type of d : <class 'complex'>
24mca3@projlabserver:~/pylab/DAY-1$
```

3. Write a program to calculate the area of a circle by reading inputs from the user.

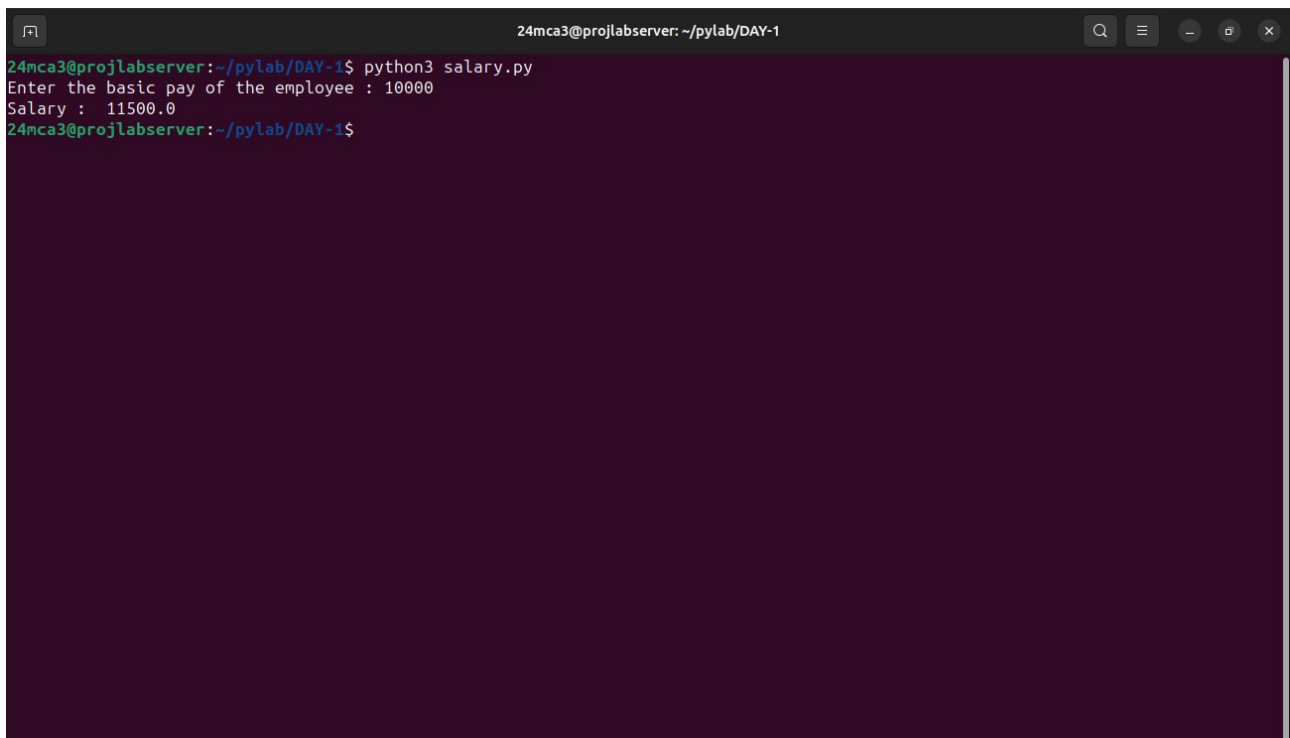
```
r = float(input("Enter the radius : "))
area = 3.14 * r * r
print("Area : ",area)
```

A terminal window titled '24mca3@projlabserver: ~/pylab/DAY-1' with standard window controls. The terminal shows the following commands and output:

```
24mca3@projlabserver:~/pylab/DAY-1$ ls
age.py          biggestThree.py  dataypes.py    intnnn.py      name.py        salary.py
arithmetic.py  circleArea.py    intnnn         leap.py        quaderatic.py  stringCopy.py
24mca3@projlabserver:~/pylab/DAY-1$ python3 circleArea.py
Enter the radius : 4
Area :  50.24
24mca3@projlabserver:~/pylab/DAY-1$
```

4. Write a program to calculate the salary of an employee given his basic pay (to be entered by the user) . HRA = 10 percent of the basic pay, TA = 5 percent of the basic pay.

```
bPay = int(input("Enter the basic pay of the employee : "))  
HRA = 0.10 * bPay  
TA = 0.05 * bPay  
salary = bPay + HRA + TA  
print("Salary : ",salary)
```

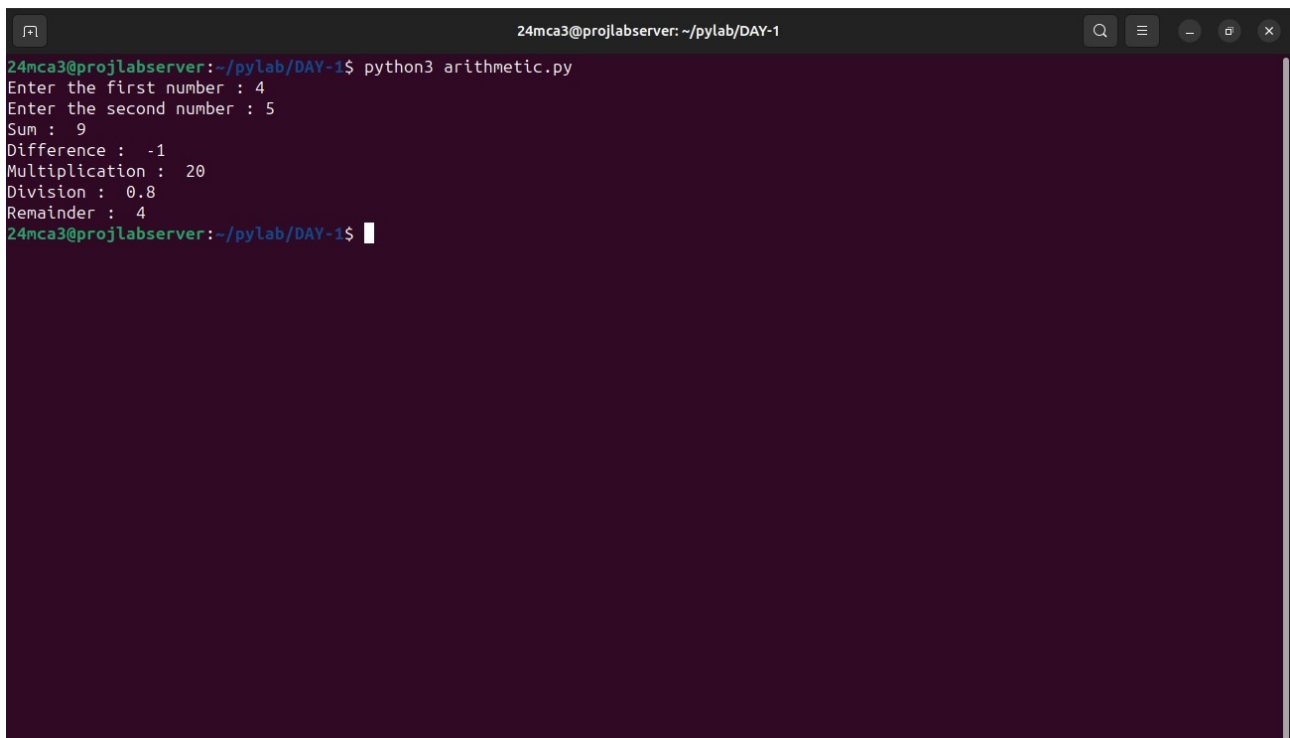


The screenshot shows a terminal window with a dark background. The title bar at the top reads "24mca3@projlabserver: ~/pylab/DAY-1". The terminal content shows the following sequence of commands and output:

```
24mca3@projlabserver:~/pylab/DAY-1$ python3 salary.py  
Enter the basic pay of the employee : 10000  
Salary : 11500.0  
24mca3@projlabserver:~/pylab/DAY-1$
```

5. Write a Python program to perform arithmetic operations on two integer numbers.

```
a = int(input("Enter the first number : "))
b = int(input("Enter the second number : "))
print("Sum : ", a + b)
print("Difference : ", a - b)
print("Multiplication : ", a * b)
if(b == 0):
    print("Division - Cant divide by zero ")
else:
    print("Division : ", a / b)
if(b == 0):
    print("Modulus - Cant divide by zero ")
else:
    print("Remainder : ", a % b)
```

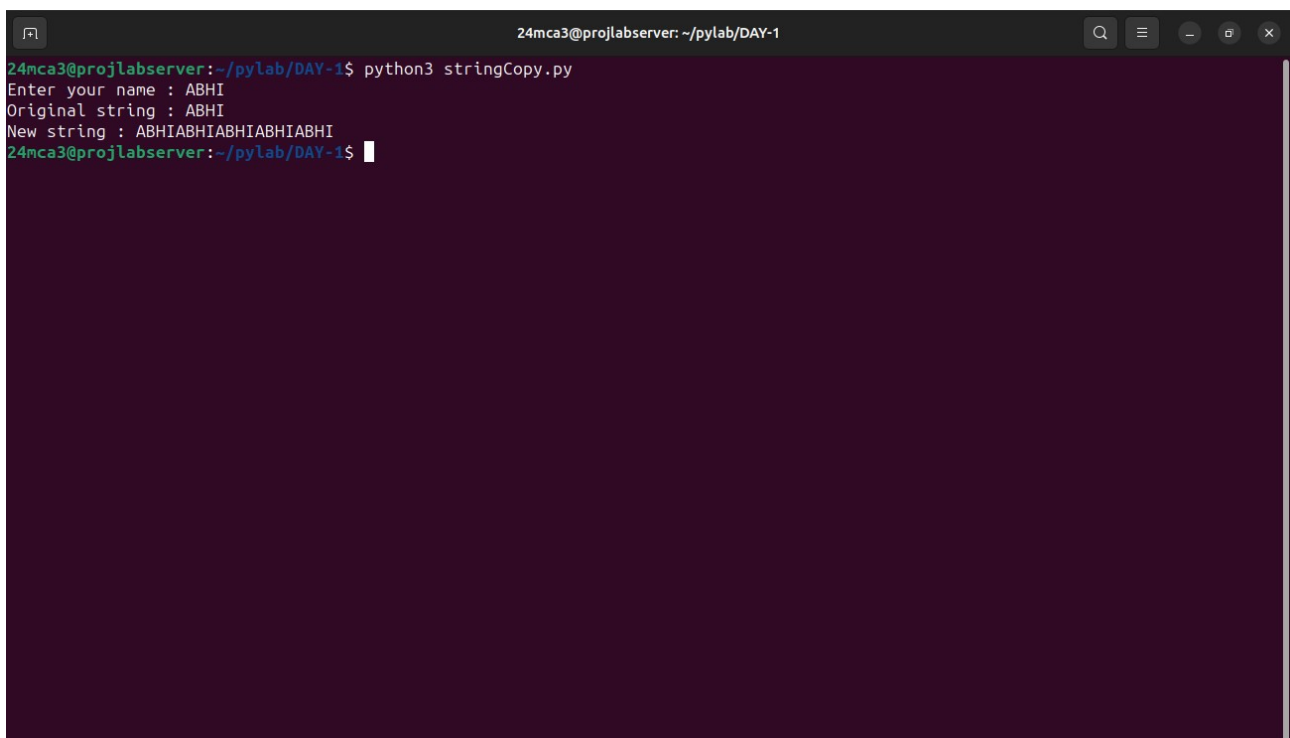


The screenshot shows a terminal window with a dark background. The title bar at the top reads "24mca3@projlabserver: ~/pylab/DAY-1". The terminal content shows the execution of a Python script named "arithmetic.py". The user enters "4" for the first number and "5" for the second number. The program outputs the sum (9), difference (-1), multiplication (20), division (0.8), and remainder (4). The prompt "24mca3@projlabserver: ~/pylab/DAY-1\$" is visible at the bottom.

```
24mca3@projlabserver:~/pylab/DAY-1$ python3 arithmetic.py
Enter the first number : 4
Enter the second number : 5
Sum : 9
Difference : -1
Multiplication : 20
Division : 0.8
Remainder : 4
24mca3@projlabserver:~/pylab/DAY-1$
```

6. Write a Python program to get a string which is n (non-negative integer) copies of a given string.

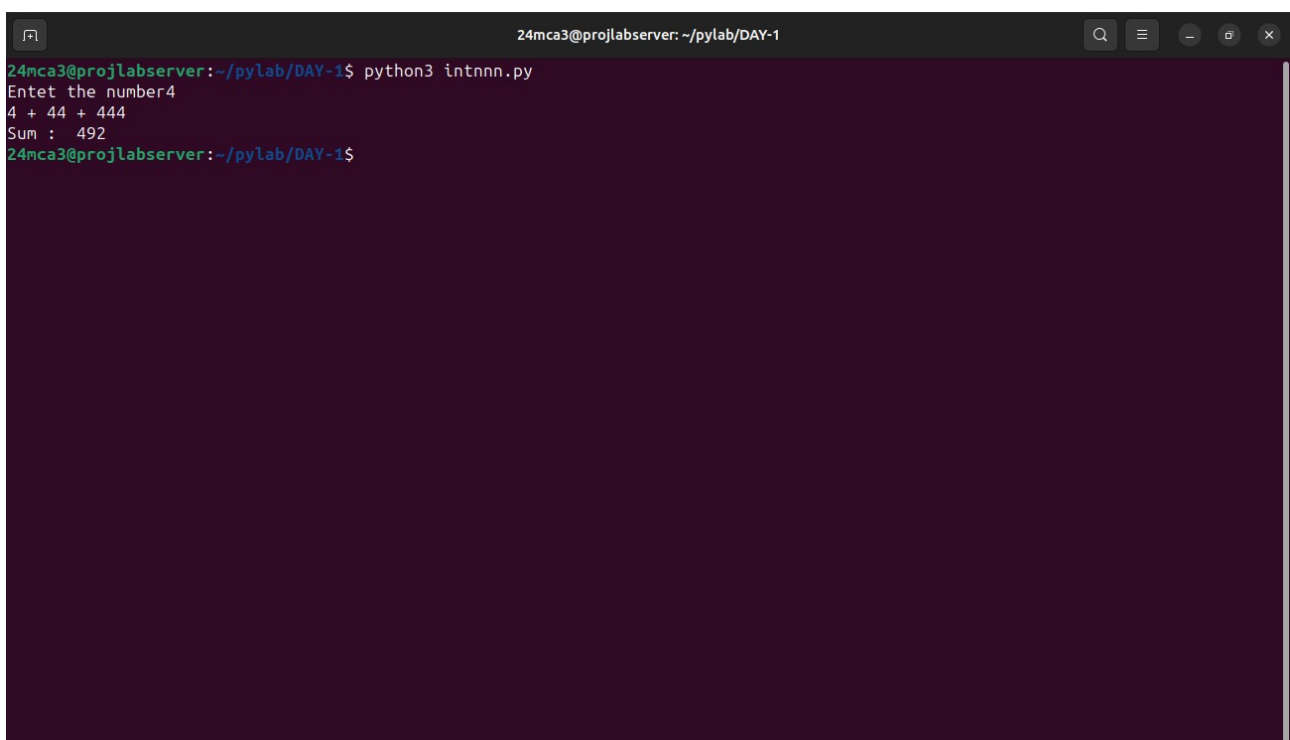
```
name = input("Enter your name : ")
print(f"Original string : {name}")
print(f"New string : {name*5}")
```

A terminal window with a dark background and light green text. The window title is "24mca3@projlabserver: ~/pylab/DAY-1". The prompt is "24mca3@projlabserver:~/pylab/DAY-1\$". The user has entered "python3 stringCopy.py". The program output is: "Enter your name : ABHI", "Original string : ABHI", and "New string : ABHIABHIABHIABHIABHI". The prompt is now "24mca3@projlabserver:~/pylab/DAY-1\$" with a cursor.

```
24mca3@projlabserver:~/pylab/DAY-1$ python3 stringCopy.py
Enter your name : ABHI
Original string : ABHI
New string : ABHIABHIABHIABHIABHI
24mca3@projlabserver:~/pylab/DAY-1$
```

7. Program to accept an integer n and compute $n+nn+nnn$. [Hint : $n = 5$, then compute $5 + 55 + 555$]

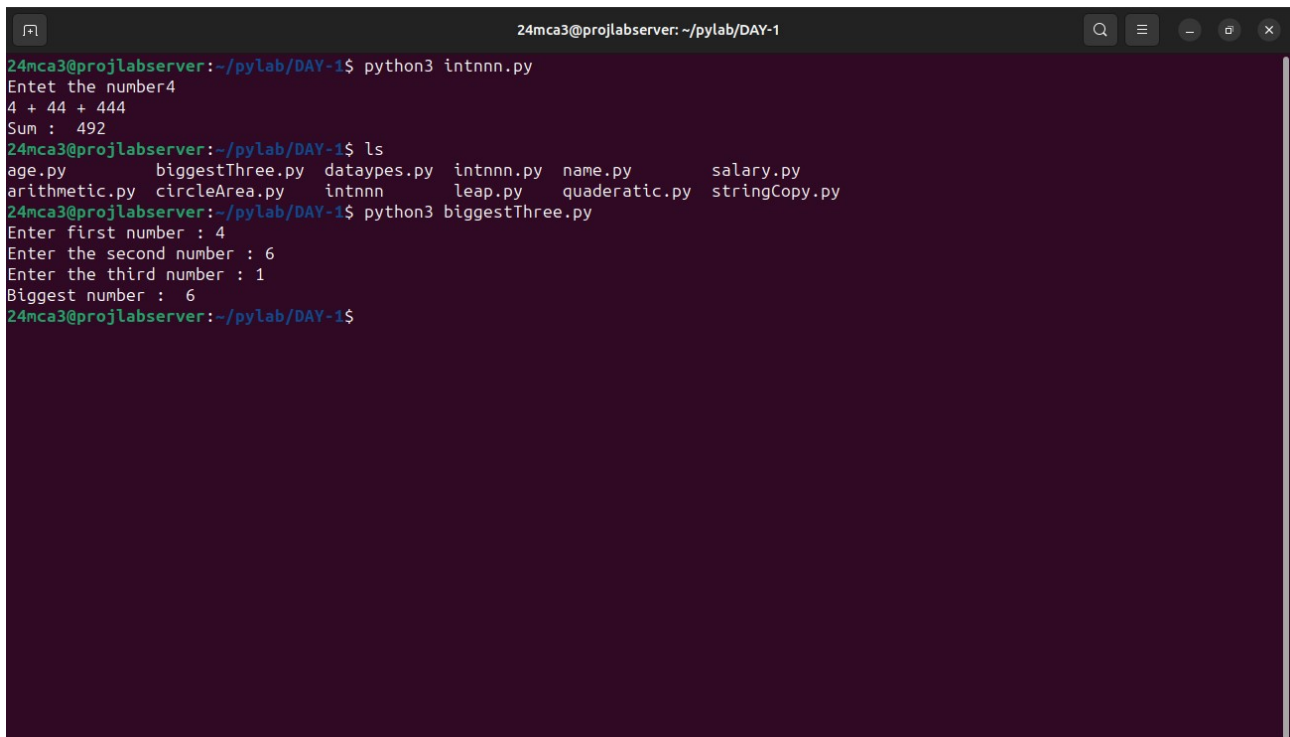
```
n = int(input("Enter the number"))
print(f"{n} + {n}{n} + {n}{n}{n}")
sum = n + (n*10 + n) + (n*100+n*10+n)
print(f"Sum : ", sum)
```

A terminal window titled '24mca3@projlabserver: ~/pylab/DAY-1' with search, menu, and window control icons. The terminal shows the execution of a Python script 'intnnn.py'. The user enters '4' in response to the prompt 'Enter the number'. The program outputs '4 + 44 + 444' and 'Sum : 492'. The prompt returns to '24mca3@projlabserver: ~/pylab/DAY-1\$'.

```
24mca3@projlabserver: ~/pylab/DAY-1$ python3 intnnn.py
Enter the number4
4 + 44 + 444
Sum : 492
24mca3@projlabserver: ~/pylab/DAY-1$
```

8. Find biggest of 3 numbers entered.

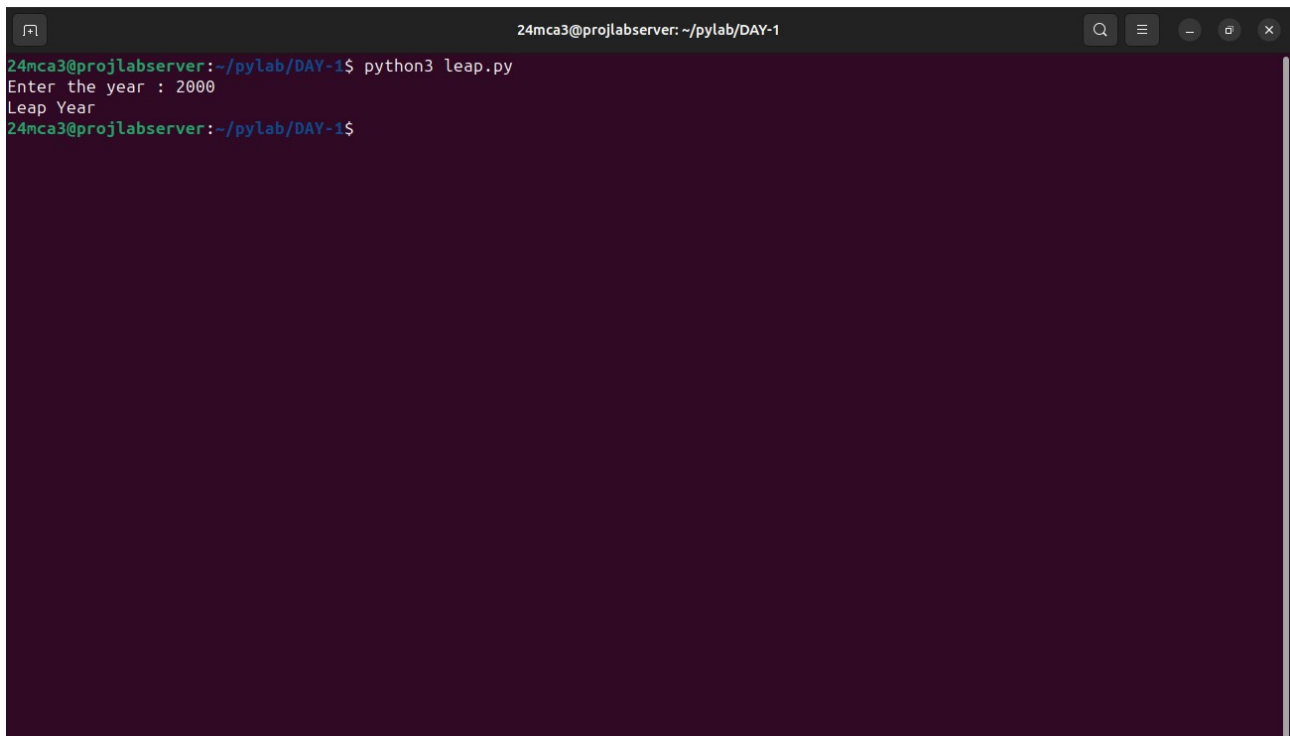
```
a = int(input("Enter first number : "))
b = int(input("Enter the second number : "))
c = int(input("Enter the third number : "))
if(a > b and a > c):
    print("Biggest number : ", a)
elif(b > a and b > c):
    print("Biggest number : ", b)
else:
    print("Biggest number : ", c)
```

A terminal window with a dark background and light green text. The window title is '24mca3@projlabserver: ~/pylab/DAY-1'. The terminal shows the execution of a Python script named 'intnnn.py'. The user enters '4' for the first number, '6' for the second, and '1' for the third. The script outputs 'Biggest number : 6'. The user then runs 'ls' to show the directory contents, which include various Python files like 'age.py', 'biggestThree.py', 'dataypes.py', 'intnnn.py', 'name.py', 'salary.py', 'arithmetic.py', 'circleArea.py', 'intnnn', 'leap.py', 'quaderatic.py', and 'stringCopy.py'. Finally, the user runs 'python3 biggestThree.py' and the terminal shows the same input and output as before.

```
24mca3@projlabserver: ~/pylab/DAY-1
24mca3@projlabserver:~/pylab/DAY-1$ python3 intnnn.py
Entet the number4
4 + 44 + 444
Sum : 492
24mca3@projlabserver:~/pylab/DAY-1$ ls
age.py          biggestThree.py  dataypes.py  intnnn.py  name.py      salary.py
arithmetic.py  circleArea.py   intnnn       leap.py    quaderatic.py stringCopy.py
24mca3@projlabserver:~/pylab/DAY-1$ python3 biggestThree.py
Enter first number : 4
Enter the second number : 6
Enter the third number : 1
Biggest number : 6
24mca3@projlabserver:~/pylab/DAY-1$
```


9. Program to determine whether a year is a leap year or not.

```
year = int(input("Enter the year : "))
if(year % 400 == 0):
    print("Leap Year")
elif(year % 100 == 0):
    print("Not a leap year")
elif(year % 4 == 0):
    print("Leap year")
else:
    print("Not a leap year")
```



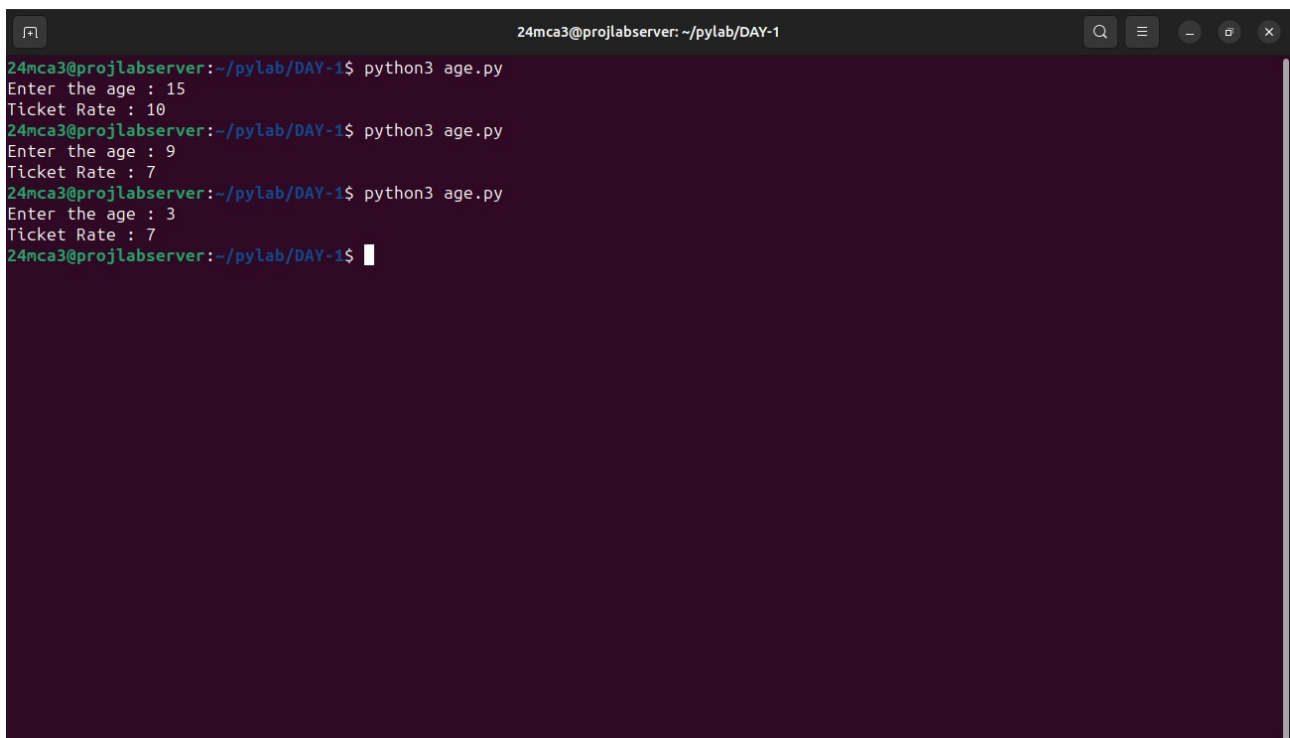
The screenshot shows a terminal window with a dark background. The title bar at the top reads "24mca3@projlabserver: ~/pylab/DAY-1". The terminal content shows the following sequence of commands and output:

```
24mca3@projlabserver:~/pylab/DAY-1$ python3 leap.py
Enter the year : 2000
Leap Year
24mca3@projlabserver:~/pylab/DAY-1$
```

10. Write a Python program to determine the rate of entry-ticket in a trade fair based on age as follows:

AGE	RATE
<10	7
>=10 AND <60	10
>=60	5

```
age = int(input("Enter the age : "))
if(age >= 60):
    print("Ticket Rate : 5 ")
elif(age < 60 and age >= 10 ):
    print("Ticket Rate : 10 ")
else:
    print("Ticket Rate : 7 ")
```



```
24mca3@projlabserver: ~/pylab/DAY-1
24mca3@projlabserver:~/pylab/DAY-1$ python3 age.py
Enter the age : 15
Ticket Rate : 10
24mca3@projlabserver:~/pylab/DAY-1$ python3 age.py
Enter the age : 9
Ticket Rate : 7
24mca3@projlabserver:~/pylab/DAY-1$ python3 age.py
Enter the age : 3
Ticket Rate : 7
24mca3@projlabserver:~/pylab/DAY-1$
```

11. Write a Python program to solve a quadratic equation.

```
import math
print("Quadratic equation ax^2 + bx + c")
a = float(input())
b = float(input())
c = float(input())
descr = (b*b) - (4*a*c)
if(descr == 0):
    print("Only one root value")
    ans = -b / (2 * a)
    print("x : ", ans)
elif descr > 0:
    sqrtValue = math.sqrt(descr)
    ansOne = (-b + sqrtValue) / (2 * a)
    ansTwo = (-b - sqrtValue) / (2 * a)
    print("X1 = ", ansOne)
    print("X2 = ", ansTwo)
else:
    print("Complex root")
    sqrtValue = math.sqrt(abs(descr)) / (2 *
a)
    print(-b/(2*a), "+i", sqrtValue)
    print(-b/(2*a), "-i", sqrtValue)
```

```
Quadratic equation ax^2 + bx + c
```

```
1
```

```
2
```

```
1
```

```
Only one root value
```

```
x : -1.0
```

```
=== Code Execution Successful ===
```

```
Quadratic equation ax^2 + bx + c
```

```
1
```

```
1
```

```
1
```

```
Complex root
```

```
-0.5 +i 0.8660254037844386
```

```
-0.5 -i 0.8660254037844386
```

```
=== Code Execution Successful ===
```