Lrn&shr

LEARN PYTHON

PYTHON

LEARNING MODULE-3

PRACTICE PROGRAMS

Practice Program 1-

Program to print group of numbers in reverse order.

```
Program Code:

num = int (input ("Enter a group of any numbers: "))

rev=0

while num>0:

    num1 = num%10

    num = num - num1

    num = num/10

    print(int(num1), end="")

    rev = rev + 1
```

PROGRAM OUTPUT

Enter a group of any numbers:
932741
147239

Output : Reverse order

Practice Program 2-

Program to print group of alphabets in reverse order.

```
alpha = input("Enter group of alphabets :")

alpha = alpha[::-1]

print("Reverse Order:",alpha)
```

PROGRAM OUTPUT

Enter group of alphabets :

facebook

Reverse Order: koobecaf

Output : Reverse order

Practice Program 3-

Program to calculate the bonus of the sales person based on their performance for the last six months.

```
SM1=float (input ("Enter the first month Sales made by a sales person:"))

SM2=float (input ("Enter the second month Sales made by a sales person:"))

SM3=float (input ("Enter the third month Sales made by a sales person:"))

SM4=float (input ("Enter the fourth month Sales made by a sales person:"))

SM5=float (input ("Enter the fifth month Sales made by a sales person:"))

SM6=float (input ("Enter the sixth month Sales made by a sales person:"))

totalsales=SM1+SM2+SM3+SM4+SM5+SM6

per=totalsales*20/100
```

```python
print ("Total sales made by sales person", totalsales)

if per>=10000:

    print ("40% bonus")

else:

    if per>=8000:

        print ("30% bonus")

    else:

        if per>=6000:

            print ("20% bonus")

        else:

            if per>=4000:

                print ("10% bonus")

            else:

                if per>=3000:

                    print ("5% bonus")

                else:

                    print ("No bonus")
```

PROGRAM OUTPUT

Enter the first month Sales made by a sales person:5000

Enter the second month Sales made by a sales person: 0

Enter the third month Sales made by a sales person: 9000

Enter the fourth month Sales made by a sales person: 2000

Enter the fifth month Sales made by a sales person: 1000

Enter the sixth month Sales made by a sales person: 1000

Total sales made by sales person 18000.0

20% bonus

Bonus

Practice Program 4-

Program to count number of words in a sentence.

```
text = input ("Enter text : ")

tot = 1

for i in range(len(text)):

    if(text[i] == ' ' or text == '\n' or text == '\t'):

        tot = tot + 1


print("Total words in the sentence = ", tot)
```

PROGRAM OUTPUT

```
Enter Text :
This is my ebook for programming
Total words in the sentence =  6
```

Words counted

Practice Program 5-

Program to calculate compounded interest and simple interest.

```
import math

prinamt = float(input("Enter Principal: "))

intrt = float(input("Enter Interest rate: "))

time = float(input("Enter Time in Years: "))


cint = prinamt * (math.pow((1 + intrt / 100), time))

cmpint = cint - prinamt

si= (prinamt * intrt * time)/100


print("Compound Interest = ", cmpint)

print("Simple Interest   = ", si)
```

'import math' is a standard module that provides access to mathematical functions. In the above program we have used '**math.pow'** function.

PROGRAM OUTPUT

Enter Principal: 75000

Enter Interest rate: 11

Enter Time in Years: 5

Simple Interest= $P \times r \times t$

where:

P=Principal amount

r=Annual interest rate

t=Term of loan, in years

Compound Interest = 51379.36163250006

Simple Interest = 41250.0

Compound Interest

$=P \times (1+r)t-P$

Simple interest is calculated based on the principal amount of a loan or deposit.

Compound interest is calculated based on the principal amount and the interest that accumulates on it in every period.

(source: Investopedia)

Practice Program 6-

Program to add the sequence of numbers as per the user input.

```
num = input("The sequence of number to add upto:")

num = int (num)

tot = 0

for num in range(0, num+1, 1):

    tot = tot+num

print("Total of first ", num, "numbers is = ", tot )
```

PROGRAM OUTPUT

The sequence of number to add upto:15

User input is 15
Loop starts adding from 1 to 15

Total of first 15 numbers is = 120

Practice Program 7-

Program to calculate and generate monthly payslip.

```
ename=input("Enter name of employee:")

dname=input("Enter name of department:")

bp=float(input("Basic pay:"))

da=float(input("Dearness Allowance in percentage: "))

ma=float(input("Medical Allowance:"))

hra=float(input("House Rent Allowance in percentage:"))

ca=float(input("Conveyance Allowance:" ))

ptax = 450

ppf = 2500

da1=(bp*da)/100

hra1=(bp*hra)/100

totsal = bp+da1+ma+hra1+ca

netsal = totsal - ptax - ppf
```

```python
print("          MONTHLY PAYSLIP")

print ("Employee Name     :        ", ename)

print ("Department        :       ", dname)

print ("Basic Salary     :       ", bp)

print ("Dearness Allowance  :        ",da1)

print ("Medical Allowance  :       ",ma)

print ("House Rent Allowance:        ", hra1)

print ("Conveyance Allowance:        ",ca)

print ("Professional Tax    :       ",ptax)

print ("Provident Fund     :       ",ppf)

print ("NET MONTHLY SALARY  :       ",netsal)
```

Dearness Allowance (DA) = Basic pay × DA %/100

House Rent Allowance (HRA)= Basic pay × HRA%/100

Total salary = Basic pay + DA + Medical + HRA + conveyance

Net salary = Total salary – Professional tax – Provident fund

PROGRAM OUTPUT

Enter name of employee: Deck
Enter name of department: Marketing
Basic pay: 35000
Dearness Allowance in percentage: 12
Medical Allowance: 6000
House Rent Allowance in percentage: 30
Conveyance Allowance: 10000

User Input

MONTHLY PAYSLIP

Employee Name   :   Deck
Department   :   Marketing
Basic Salary   :   35000.0
Dearness Allowance   :   4200.0
Medical Allowance   :   6000.0
House Rent Allowance   :   10500.0
Conveyance Allowance   :   10000.0
Professional Tax   :   450
Provident Fund   :   2500
NET MONTHLY SALARY   :   62750.0

Output

Practice Program 8-

Program to find smallest and largest number from the list.

```
list1 = []

num = int(input("Enter number of elements in list: "))

for i in range(1, num + 1):

    value = int(input("Please enter the Value of %d element : " %i))

    list1.append(value)

print("The Smallest element in this list is : ", min(list1))

print("The Largest element in this list is : ", max(list1))
```

PROGRAM OUTPUT

Enter number of elements in list: 4

Please enter the Value of 1 Element : 45

Please enter the Value of 2 Element : 65

Please enter the Value of 3 Element : 23

Please enter the Value of 4 Element : 78

The Smallest Element in this List is : 23

The Largest Element in this List is : 78

List to find smallest & largest number

Practice Program 9-

Program to print calendar of the month as per the user input.

```
import calendar

year = int(input("Enter year in digits : "))

month = int(input("Enter month in digits : "))

print(calendar.month(year, month))
```

Built -in-function: calendar is a function module allows to calculate weekdays as per the user input and return the output.

PROGRAM OUTPUT

```
Enter year in digits : 2021
Enter month in digits : 4
```

User input

```
     April 2021
Mo Tu We Th Fr Sa Su
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30
```

Practice Program 10-

Program to calculate area of the shapes as per the user input.

```python
sp = input ("Type the shape to find area - Square, Rectangle, Triangle, Circle:  ")

sp = sp.lower()

print ("Name of the Shape: ", sp)

if sp == "rectangle":

    l = int(input("Enter rectangle's length: "))

    b = int(input("Enter rectangle's breadth: "))

    rarea = l * b

    print("The area of rectangle is -.",rarea)

elif sp == "square":

    s = int(input("Enter square's side length: "))

    sqarea = s * s

    print("The area of square is -", sqarea)
```

```python
elif sp == "triangle":

        h = int(input("Enter triangle's height length: "))

        b = int(input("Enter triangle's breadth length: "))

        tarea = 0.5 * b * h

        print("The area of triangle is-", tarea)


elif sp == "circle":

        r = int(input("Enter circle's radius length: "))

        pi = 3.14

        carea = pi * r * r

        print("The area of circle is -",carea)
else:

        print("Please enter correct shape as mentioned.")
```

PROGRAM OUTPUT

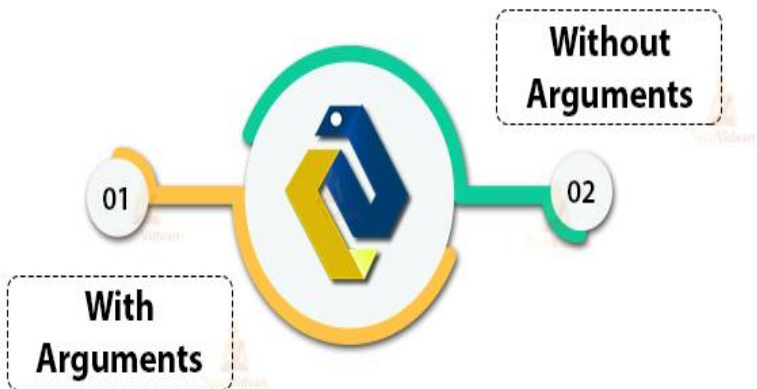Type the shape to find area - Square, Rectangle, Triangle, Circle: square

Name of the Shape: square

Enter square's side length: 12

The area of square is - 144

User input to find area

Python Object Initialization

Without Arguments

01

02

With Arguments

REFERENCED SOURCE

- www.python.org,

- Python Tutorial,

- Introduction to Computer Programming Python-Ebook

- Python Concepts by Wikiversity

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