**# Program make a simple calculator**

def add(x, y):

return x + y

def subtract(x, y):

return x - y

def multiply(x, y):

return x \* y

def divide(x, y):

return x / y

print("Select operation.")

print("1.Add")

print("2.Subtract")

print("3.Multiply")

print("4.Divide")

while True:

choice = input("Enter choice(1/2/3/4): ")

if choice in ('1', '2', '3', '4'):

num1 = int(input("Enter first number: "))

num2 = int(input("Enter second number: "))

if choice == '1':

print(num1, "+", num2, "=", add(num1, num2))

elif choice == '2':

print(num1, "-", num2, "=", subtract(num1, num2))

elif choice == '3':

print(num1, "\*", num2, "=", multiply(num1, num2))

elif choice == '4':

print(num1, "/", num2, "=", divide(num1, num2))

**output**

Select operation.

1.Add

2.Subtract

3.Multiply

4.Divide

Enter choice(1/2/3/4): 1

Enter first number: 12

Enter second number: 12

12 + 12 = 24

Enter choice(1/2/3/4): 3

Enter first number: 12

Enter second number: 12

12 \* 12 = 144

Enter choice(1/2/3/4):

#lambda

x=lambda a: a + 10

print(x(5))

y=lambda a,b:a\*b

print(y(5,6))

z=lambda a,b,c:a+b+c

print(z(5,6,7))

#lambda map

nums=[6,16,26,36,45,36]

result=list(map(lambda x:x\*2+2-4,nums))

print(result)

y=list(map(lambda a,b:a+b,[1,2,3,4,5],[1,2,3,4,5]))

print(y)

x=list(map(lambda a:a\*2,[1,2,3,4]))

print(x)

output

15

30

18

[10, 30, 50, 70, 88, 70]

[2, 4, 6, 8, 10]

[2, 4, 6, 8]

# Binary search

def BinarySearch(list,key):

low = 0

high = len(list1)-1

Found = False

while low<=high and not Found:

mid = (low+high)//2

if key == list1[mid]:

Found = True

elif key>list1[mid]:

low = mid+1

else:

high = mid-1

if Found == True:

print("key is found")

else:

print("key is not found")

list1 = [23,1,4,2,3]

list1.sort()

print(list1)

key=int(input("enter the key "))

BinarySearch(list1,key)

#output

[1, 2, 3, 4, 23]

enter the key 25

key is not found