WEEK-5

AIM	To Compute the squares of elements of a list
DESCRIPTION	We create the list with some elements using “If condition” and then we print the squares of the elements present in the list using “for loop in the previous for loop(nersted for loop)”

SOURCE CODE	n=int(input(“Enter the number of elements: “))
	a=[]
	b=[]
	for i in range(n):
	  c=int(input(“enter an element: “))
	  a.append(c)
	for j in a:
	  d=a[j]**2
	  b.append(d)
	print(b)

OUTPUT	Enter the number of elements: 2 enter an element: 5 enter an element: 6 b=[25,36]
OBSERVATION	Here we created the list with size “n” and we appended n elements into the list a usin g a for loop and using another for loop we calculated the squares of the entered elements and appended them into another list and printed the list and output of squares of the entered elements are ready
CONCLUSION	With using for loop the operation became very easy

AIM	To find factors of a given number
DESCRIPTION	Here we take a number as input for which we need to find the factors and using for loop we determine the factors by inserting an appropriate logic in for loop

SOURCE CODE	n=int(input(“Enter a number: “))
	a=[]
	for i in range(1,n+1):
	  b=n%i
	  if(b==0):
	  a.append(i)
	  else:
	  pass
	print(“The factors of a given number are”,a)

OUTPUT	Enter a number: 3 The factors of a given number are [1,3]
OBSERVATION	We here asked the user to enter the number for which he need to find the factors and using for loop and inserting an appropriate condition into it we appended the factors into an empty list and printed the list
CONCLUSION	By using this condition in for loop we can find factors of any number

AIM	To find the greatest element in a given list
DESCRIPTION	Now we create a list with n number of unorderd integer elements and using for loop we find the greatest element in the list

SOURCE CODE	n=int(input("Enter the number of elements: "))
	a=[]
	for i in range(n):
	k=int(input("Enter an element: "))
	a.append(k)
	max=a[0]
	for i range(0,n):
	if(a[i]<max):
	max=max
	elif(a[i]>max):
	max=a[i]
	else:
	pass
	print("greatest element in the list is",max)

OUTPUT	Enter the number of elements: 3 Enter an element:45 Enter an element:34 Enter an element:453 greatest element in the list is 453
OBSERVATION	We asked the user to enter the length of the list and we created a list with different integer elements of size n and assumed its first element as the greatest element in the list and compared it with the other elements with using for loop and got the orginal greatest element of the list after undergoing all the conditions written in the loop
CONCLUSION	By this way we can find the greatest element in the given list irrespective of it's length

AIM	To check weather given number is polindrome (or) not
DESCRIPTION	We ask the user to enter a number to which he need to check the polindrome nature and if a number is same when we read it from both sides the the number is called as polindrome

SOURCE CODE	n=int(input(“Enter a number: “))
	a=[]
	for i in range(len(str(n))):
	r=n%10
	a.append(r)
	n=n//10
	b=a.copy()
	a.reverse()
	if(a==b):
	print(“The given number is a Polindrome”)
	else:
	print(“The given number is not a Polindrome”)

OUTPUT	Enter a number:10001 The given number is a polindrome
OBSERVATION	Here we taken a number and a empty list we extracted each digit from the number with using appropriate mathematical operators and appended them into a list and created another similar list and now reversed the first list and compared both lists if the first list is equals to the reversed list then it is polindrome else its not
CONCLUSION	Using this code we can check weather a given number is polindrome or not but the main drawback of this code id inefficient use of memory and takes a lot of time for bigger numbers

AIM	To check for the smallest of given Three Numbers
DESCRIPTION	Now we compare three given numbers and find the smallest of those using “if” conditon

SOURCE CODE	a=10
	b=15
	c=5
	if(a<b and a<c):
	  print(a,”is the smallest number”)
	elif(b<c):
	  print(b,”is the smallest number”)
	else:
	  print(c,”is the smallest number”)

OUTPUT	5 is the smallest number
OBSERVATION	By using “simple if” statements we can determine the smallest and as well as biggest of given numbers
CONCUSION	-