**STUDENT INFORMATION SEARCH USING TUPLES**

**QUESTION**:

Write a menu driven program to create tuple and perform the following:

1. Accept an element and add it to the tuple

2. Display the largest and the smallest element of the tuple

3. Update all even numbers by adding 2 and odd numbers by adding 3

4. Perform the linear search of an element in a tuple

**CODE**:

a = list(eval(input('Enter tuple: ')))

large = a[0]

small = a[0]

while True:

inp = int(input('1) Accept an element to add to the tuple.\n2) Display the largest and smallest of the tuple.\n3) Update all even numbers by adding 2 and odd numbers by adding 3.\n4) Perform a linear search of an element in a tuple.\n5. Exit\nEnter number corresponding to the option:'))

if inp == 1:

a += [int(input('Enter number to add to tuple: '))]

print(f'The tuple is now {tuple(a)}')

elif inp == 2:

for i in a:

if i > large:

large = i

elif i < small:

small = i

print(f'Small = {small}\nLarge = {large}')

elif inp == 3:

for i in range(len(a)):

a[i] += 2 if a[i]%2 == 0 else 3

print(f'The tuple is now {tuple(a)}')

elif inp == 4:

pos = 0

element = int(input('Enter element to search for: '))

if element in a:

for i in range(len(a)):

if a[i] == element:

pos = i

print(f'Element is at position {pos}')

else:

print('Element not found.')

elif inp == 5:

break

else:

print('Invalid Option.')

**OUTPUT**:

Enter tuple: (1,2,3,4)

1) Accept an element to add to the tuple.

2) Display the largest and smallest of the tuple.

3) Update all even numbers by adding 2 and odd numbers by adding 3.

4) Perform a linear search of an element in a tuple.

5. Exit

Enter number corresponding to the option:1

Enter number to add to tuple: 5

The tuple is now (1, 2, 3, 4, 5)

1) Accept an element to add to the tuple.

2) Display the largest and smallest of the tuple.

3) Update all even numbers by adding 2 and odd numbers by adding 3.

4) Perform a linear search of an element in a tuple.

5. Exit

Enter number corresponding to the option:2

Small = 1

Large = 5

1) Accept an element to add to the tuple.

2) Display the largest and smallest of the tuple.

3) Update all even numbers by adding 2 and odd numbers by adding 3.

4) Perform a linear search of an element in a tuple.

5. Exit

Enter number corresponding to the option:3

The tuple is now (4, 4, 6, 6, 8)

1) Accept an element to add to the tuple.

2) Display the largest and smallest of the tuple.

3) Update all even numbers by adding 2 and odd numbers by adding 3.

4) Perform a linear search of an element in a tuple.

5. Exit

Enter number corresponding to the option:4

Enter element to search for: 4

Element is at position 1

1) Accept an element to add to the tuple.

2) Display the largest and smallest of the tuple.

3) Update all even numbers by adding 2 and odd numbers by adding 3.

4) Perform a linear search of an element in a tuple.

5. Exit

Enter number corresponding to the option:5