```
1. Program to Create Dictionary and Perform Various Operations on the Dictionary
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Batch 1
```

In [37]:

```
dic = eval(input("Enter a Dictionary:\n"))
```

```
Enter a Dictionary:
{1:'Red', 2:'Blue', 3:'Green'}
```

In [38]:

```
val = eval(input("Enter color name to be inserted into the dictionary alongwith
                 its key name:"))
dic[val[0]] = val[1]
print("New Dictionary: {}".format(dic))
```

```
Enter color name to be inserted into the dictionary alongwith its key
name:4,'Orange'
New Dictionary: {1: 'Red', 2: 'Blue', 3: 'Green', 4: 'Orange'}
```

In [13]:

```
val = eval(input("Enter key for which color name to be changed and new color
                 name:"))
dic[val[0]] = val[1]
print("New Dictionary: {}".format(dic))
```

```
Enter key for which color name to be changed and new color name:2,'Bla
ck'
New Dictionary: {1: 'Red', 3: 'Green', 4: 'Orange', 2: 'Black'}
```

In [14]:

```
val = eval(input("Enter color number to be removed:"))
print("Color Removed: {}".format(dic.pop(val)))
```

```
Enter color number to be removed:2
Color Removed: Black
```

In [16]:

```
print("{}".format(dic.items()))
```

```
dict_items([(1, 'Red'), (3, 'Green'), (4, 'Orange')])
```

In [17]:

```
print("List of colors: {}".format(dic.values()))
```

```
List of colors: dict_values(['Red', 'Green', 'Orange'])
```

In [20]:

```
# Dictionary Comprehension for Odd Squares
dic1 = {x: x*x for x in range(11) if x % 2 == 1}
print(dic1)
```

```
{1: 1, 3: 9, 5: 25, 7: 49, 9: 81}
```

In [23]:

```
print("Reverse Sorted List of Keys: {}".format(sorted(dic1, reverse = True)))
```

```
Reverse Sorted List of Keys: [9, 7, 5, 3, 1]
```

In [24]:

```
# Iterating through a Dictionary
for i in dic:
    print(dic[i])
```

```
Red
Green
Orange
```

In [25]:

```
dic.clear()
print("New Dictionary: {}".format(dic))
```

```
New Dictionary: {}
```

```
2. Program to Create Tuple and Perform Various Operations on the Tuple
Name : Akash Kumar Singh
Registraion No: 219310279
```

In [26]:

```
tup = eval(input("Enter a Tuple:"))
print("Length of tuple : {}".format(len(tup)))
```

```
Enter a Tuple:3,4,5,6
Length of tuple : 4
```

In [27]:

```
#Access Tuple Elements using Indexes
for i in range(len(tup)):
    print(tup[i])
```

```
3
4
5
6
```

In [28]:

```
# Unpacking a Tuple
a,b,c,d = tup
print("a:{}, b:{}, c:{}, d:{}".format(a,b,c,d))
```

```
a:3, b:4, c:5, d:6
```

In [29]:

```
tup1 = eval(input("Enter another Tuple:"))
```

```
Enter another Tuple:1,2,3,4
```

In [31]:

```
# + operator
print("Addition of 2 Tuples : {}".format(tup + tup1))
```

```
Addition of 2 Tuples : (3, 4, 5, 6, 1, 2, 3, 4)
```

In [32]:

```
# * operator
print("Multiplication of a tuple with a number : {}".format(tup*2))
```

```
Multiplication of a tuple with a number : (3, 4, 5, 6, 3, 4, 5, 6)
```

In [34]:

```
# Slicing
print("Values in range 1,3 : {}".format(tup[1:3]))
```

```
Values in range 1,3 : (4, 5)
```

In [35]:

```
# Membership Check
val = eval(input("Enter value to search:"))
print("{}".format(val in tup))
```

```
Enter value to search:3
True
```