Write a program to illustrate iteration over the list and dictionary.

1. LIST

In [49]:

```
#Method #1: Using For loop

list = [1, 3, 5, 7, 9]
for i in list:
 print(i)
```

```
1
3
5
7
9
```

In [50]:

```
#Method #2: For loop and range()

list = [1, 3, 5, 7, 9]
length = len(list)
for i in range(length):
 print(list[i])
```

```
1
3
5
7
9
```

In [51]:

```
#Method #3: Using while loop

list = [1, 3, 5, 7, 9]
length = len(list)
i = 0
while i < length:
 print(list[i])
 i += 1
```

```
1
3
5
7
9
```

In [52]:

```python
#Method #4: Using list comprehension (Possibly the most concrete way)

list = [1, 3, 5, 7, 9]
[print(i) for i in list]
```

```
1
3
5
7
9
```

Out[52]:

```
[None, None, None, None, None]
```

1. DICTIONARY

In [53]:

```python
#Example 1: Access key using the build .keys()

statesAndCapitals ={
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
}
keys = statesAndCapitals.keys()
print(keys)
```

```
dict_keys(['Gujarat', 'Maharashtra', 'Rajasthan', 'Bihar'])
```

In [54]:

```python
#Example 2: Access key without using a key()

statesAndCapitals = {
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
}
print("List Of given states:\n")
# Iterating over keys
for state in statesAndCapitals:
 print(state)
```

```
List Of given states:

Gujarat
```

Maharashtra
Rajasthan
Bihar

In [55]:

```python
#Example 3: Iterate through all values using .values()

statesAndCapitals = {
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
}
print("List Of given Capitals:\n")

for capital in statesAndCapitals.values():
 print(capital)
```

List Of given Capitals:

Gandhinagar
Mumbai
Jaipur
Patna

In [56]:

```python
#Example 4: Iterate through all key, and value pairs using items()

statesAndCapitals = {
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
}
print("List Of given States and their Capitals:\n")

for state, capital in statesAndCapitals.items():
 print(state, ":", capital)
```

List Of given States and their Capitals:

Gujarat : Gandhinagar
Maharashtra : Mumbai
Rajasthan : Jaipur
Bihar : Patna

In [57]:

```python
#Example 5: Access both key and value without using items()

statesAndCapitals = {
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
 }
for i in statesAndCapitals:
 print(i, "->",statesAndCapitals[i])
```

```
Gujarat -> Gandhinagar
Maharashtra -> Mumbai
Rajasthan -> Jaipur
Bihar -> Patna
```

In [58]:

```python
#Example 6: Print items in Key-Value in pair

statesAndCapitals = {
 "Gujarat":"Gandhinagar",
 "Maharashtra":"Mumbai",
 "Rajasthan":"Jaipur",
 "Bihar":"Patna"
 }
keys = statesAndCapitals.items()
print(keys)
```

```
dict_items([('Gujarat', 'Gandhinagar'), ('Maharashtra', 'Mumbai'), ('Rajasth
an', 'Jaipur'), ('Bihar', 'Patna')])
```

In [ ]: