1. **how do you write a for loop in python to iterate over a list of numbers?**

```
numbers = [1, 2, 3, 4, 5]
for number in numbers:
    print(number)
```
output:-
```
1
2
3
4
5
```

2. **how can you use a for loop to iterate over the characters in a string?**

```
text = "hello"
for char in text:
    print(char)
```
output:-
```
h
e
l
l
o
```

3. **what is the difference between using a for loop with range() and directly iterating over a list?**

```
# Example: Using range() to iterate over a list by index
numbers = [10, 20, 30, 40, 50]
for i in range(len(numbers)):
    print(f"Index {i}: {numbers[i]}")


# Example: Directly iterating over a list
numbers = [10, 20, 30, 40, 50]
for num in numbers:
    print(num)
```

4. **how do you use a for loop to iterate over the keys and values in a dictionary?**

```
# Example dictionary
my_dict = {'a': 1, 'b': 2, 'c': 3}
# Iterating over keys and values
for key, value in my_dict.items():
    print(f"Key: {key}, Value: {value}")
```
```
Key: a, Value: 1
Key: b, Value: 2
Key: c, Value: 3
```

5. **how can you use a for loop to find the sum of all elements in a list?**

```
numbers = [1, 2, 3, 4, 5]
total_sum = 0
for num in numbers:
    total_sum += num
print("The sum of all elements in the list is:", total_sum)
```

output:- The sum of all elements in the list is: 15