Q1. Explain with an example each when to use a for loop and a while loop.

Use a for loop when you know the loop should execute n times. Use a while loop for reading a file into a variable. Use a while loop when asking for user input. Use a while loop when the increment value is nonstandard.25-Aug-2022

In [18]:
```python
#Q2#Write a python program to print the sum and product of the first 10 natural num
#and while loop.

a = 1

while a<= 10:
    print(a)
    a=a+1
```

```
1
2
3
4
5
6
7
8
9
10
```

In [10]:
```python
s=1,2,3,4,5,6,7,8,9,10
for i in s:
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

In [19]:
```python
#Q2.#Create a python program to compute the electricity bill for a household.
#The per-unit charges in rupees are as follows: For the first 100 units, the user w
#You are required to take the units of electricity consumed in a month from the use
#Your program must pass this test case: when the unit of electricity consumed by th


unit = int(input("Enter your unit: "))
if unit <= 100:
    bill = unit * 3.46
elif unit >= 101 and unit <= 300:
    bill = 346 + ((unit - 100) * 7.43)
elif unit >= 301 and unit <= 500:
    bill = 346 + 1486 + ((unit - 300) * 10.32)
else:
    bill = 346 + 1486 + 2064 + ((unit - 500) * 11.71)
print("Bill Per Unit:",bill)
bill = bill + (unit*1.45)
print("Bill after adding Line rent:",bill)
bill = bill + 100
print("Bill after adding Meter rent:",bill)
```

```
bill = bill + (bill*0.16)
print("Total Bill after adding tax:",bill)
```

```
Bill Per Unit: 1935.2
Bill after adding Line rent: 2384.7
Bill after adding Meter rent: 2484.7
Total Bill after adding tax: 2882.252
```

In [20]:
```
string = "I want to become a data scientist"
```

In [30]:
```
#Q5.  Write a program to filter count vowels in the below-given string.
string = "I want to become a data scientist"

string.count( "I want to become a data scientist" )
```

Out[30]: 1

In [ ]: