In [ ]:
```python
# 1. Check whether a character is entered vowel or not

ch = input("Enter a character: ")
if ch =='a'or ch=='e'or ch=='i'or ch=='o' or ch=='u':
    print("Character is Vowel")
else:
    print("Character is Not Vowel")
```

In [10]:
```python
# 2. Greatest of 3 numbers using nested if else

a = int(input("Enter a value in A: "))
b = int(input("Enter a value in B: "))
c = int(input("Enter a value in C: "))

if a>b:
    if a>c:
        print("A is Greatest",a)
    else:
        print("C is Greatest",c)
else:
    if b>c:
        print("B is Greatest",b)
    else:
        print("C is Greatest",c)
```

```
Enter a value in A: 23
Enter a value in B: 45
Enter a value in C: 65
C is Greatest 65
```

In [12]:
```python
# 3. WAP to calculate roots of a Quadratic equation

a = int(input("Enter a value in A: "))
b = int(input("Enter a value in B: "))
c = int(input("Enter a value in C: "))

d = (b**2) - 4*a*c
if d>0:
    x1 = (-b + d ** 0.5) / 2 * a
    x2 = (-b -d ** 0.5) / 2 * a
    print("Roots are Real: ",x1)
    print("Roots are Real: ",x2)

elif d==0:
    x1 = x2 = -b / 2 * a
    print("Roots are equal: ",x1)
else:
    print("Roots are imaginary")
```

```
Enter a value in A: 2
Enter a value in B: 4
Enter a value in C: 2
Roots are equal:  -4.0
```

Loop

In [16]:
```
# While Loop
i=1
while i<10:
    print(i,end="\t")
    i=i+1
```

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

In [23]:
```
#4. Find the sum of all natural numbers within 50
s = 0
n = 1
while n<=10:
    s = s + n
#     print(n,end=" ")
    n = n + 1
print("\nSum of Natural Number: ",s)
avg = s / 10
print("Average: ",avg)
```

```
Sum of Natural Number:  55
Average:  5.5
```

In [ ]:
```
# 5. Draw the following pattern: using while loop
# ****
# ****
# ****
```

In [25]:
```
n = 0
while n<3:
    print('****')
    n = n + 1
```

```
****
****
****
```

In [36]:
```
#6. Find the sum of the digits of the given number
# using while loop
n = int(input("Enter a number: "))
s=0
while n!=0:
    r = n % 10
    s = s + r
    n = n // 10
print("Sum of the Digits: ",s)
```

```
Enter a number: 1234
Sum of the Digits:  10
```

In [38]:
```
# WAP to find wheater a given number is Armstrong or not
n = int(input("Enter a number: "))
s = 0
cpy = n
while n!=0:
    r = n % 10
    s = s + r ** 3
```

```
    n = n // 10

if s==cpy:
    print(cpy," is Armstrong Number")
else:
    print(cpy, "is Not Armtrong")
```

```
Enter a number: 143
143 is Not Armtrong
```

In [ ]:
```
# Check whether a number is prime or not
```

In [54]:
```
# For Loop

for i in range(1,10,1):
    print(i)
```

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

In [50]:
```
for i in range(10,1,-2):
    print(i)
```

```
10
8
6
4
2
```

In [53]:
```
# Check whether a number is prime or not using for loop
c=0
n = int(input("Enter a number: "))
for i in range(2,(n//2)):
    if n%i==0:
        c=c+1

if c==0:
    print("Prime Number")
else:
    print("Not Prime")
```

```
Enter a number: 11
Prime Number
```

In [ ]:

In [ ]:
```
11
```