CONDITIONAL EXECUTION AND ITERATIONS

IF STATEMENT :

```
In [ ]:  1
```

```
In [1]:  1  x = 5
         2  if > 0
         3      print("the number is positive")
```

NESTED IF :

```
In [ ]:  1  x =1
         2  if x>0:
         3      if x%2 == 0:
         4          print("the number is even positive")
         5      else:
         6          print("the number is odd negative")
         7  else:
         8      print("then number is negative")
```

LOOPS :

Range method

```
In [ ]:  1  range??
```

```
In [ ]:   1  list(range(1,22,7))
          2  list('python')
          3  range(4)
          4  range(0,4)
          5  range(1,4)
          6  range(-4)
          7  range(0,-4)
          8  range(-4,0)
          9  range(-4,0,2)
         10  range(0,4,-2)
         11
```

```
In [ ]:   1  for i in range(4):
          2      print('hello')
```

for loop with string

```
In [ ]:   1  for i in 'python':
          2      print(i)
```

for loop with list

```
In [ ]:   1  for i in [4,5,6]:
          2      print(i)
```

for else statement

```
In [ ]:   1  for i in range(5):
          2      print(i)
          3  else:
          4          print("loop runs sucessfully")
```

while statement

```
In [ ]:   1  count = 0
          2
          3  while count < 5:
          4      print(count)
          5      count+=1
          6  else:
          7       print("loop runs sucessfully")
```

nested for statement

```
In [ ]:   1  for i in range(3):
          2      for j in range(3):
          3          print(i,j)
          4
```

Break continue and pass statement :

Break statement

```
In [ ]:   1  for i in range(5):
          2      if i==3:
          3          break
          4      print(i)
          5  else:
          6      print("loop runs succesfully")
```

Contine statement

```
In [ ]:   1  for i in range(5):
          2      if i==3:
          3          continue
          4      print(i)
          5  else:
          6      print("loop runs succesfully")
```

Pass statement

```
In [ ]:   1  for i in range(4):
          2      ...
```

WAP to find the max of three number by user input

```
In [ ]:   1
          2  a = int(input("Enter a:"))
          3  b = int(input("Enter b:"))
          4  c = int(input("Enter c:"))
          5  if a>b:
          6      if a>c :
          7          print("a is max")
          8      else :
          9          print("c is max")
         10  elif b>c:
         11      print("b is max")
         12  else :
         13      print("c is max")
```

WAP to print all the number from 0 to 6 except 3 and 6

```
In [ ]:   1  for i in range(7):
          2      if i == 3 or i ==6 :
          3          continue
          4      print(i,end=" ")
          5
```

WAP to ask user for a number and print its multiplication table

```
In [ ]:   1  num = int(input("Enter number "))
          2  i=1
          3  for i in range(1,11):
          4      print(num,"x",i,"=",num*i)
```

WAP to take use input of 10 numbers and print avg of them

```
In [ ]:   1
          2  sum=0
          3  for i in range(1,11):
          4      a= int(input("Enter number"))
          5      sum = sum+a
          6  print(sum/10)
```

WAP to check year is leap year or not

```
In [ ]:   1  year =int(input("Enter year"))
          2  if (year % 100 != 0 and year % 4 ==0) or (year % 400 == 0):
          3      print("Its a leap year"'')
          4  else :
          5      print("Its not leap year")
```

WAP to display fibonacci series

```python
#0 1 1 2 3 5 8 13
a = 0
b = 1
n=10
print(a)
print(b)
while n-3>=0:
    c = a+b
    print(f"{c}")
    a=b
    b=c
    n = n-1
```

Type *Markdown* and LaTeX: α^2

```python
# 5student 2 left
# 6 3
# 7 2
for i in range(1,5000):
    if i %5==2 and i %6==3 and i % 7 ==2:
        print(i)
```

```python

```

```python
#find smallest number divisible by 1 to 10
num=1
found = False
while not found:
    found=True
    for i in range(1,11):
        if num%i !=0:
            found=False
            break
        if not found:
            num +=1
print(num)
```

write integer solution for all possible of an equation $x^2 - 2y^2 = 1$ where x and y are between 1 to 100

In [10]:
```python
for i in range(1,101):
    for j in range(1,101):
        if i**2 - 2*(j**2) ==1:
            print(i,j)
```

```
3 2
17 12
99 70
```

26 legs and 10 heads how many ship and hen

In [15]:
```python
# 4x +2y=26 equation
for i in range(1,27):
    for j in range(1,27):
        if 4*i+2*j ==26:
            if i+j==10:
                print(i,j)
```

```
3 7
```

WAP to ask user for an hour between 1 to 10 ask them to enter AM or PM and also ask how many Hours in future they want to go print hour in future printing the AM and PM as well

In [39]:
```python
hour = int(input("Enter hour"))
amm = input("Enter am or pm ")
fwd = int(input("Enter hour to add"))

f = hour+fwd
if f>=12 and amm=="am":
    f=f-12
    amm=pm
elif f>=12 and amm=="pm":
        amm=am
        f=f-12
print(f)
print(amm)
```

```
Enter hour8
Enter am or pm am
Enter hour to add5
1
pm
```

In [ ]:   1