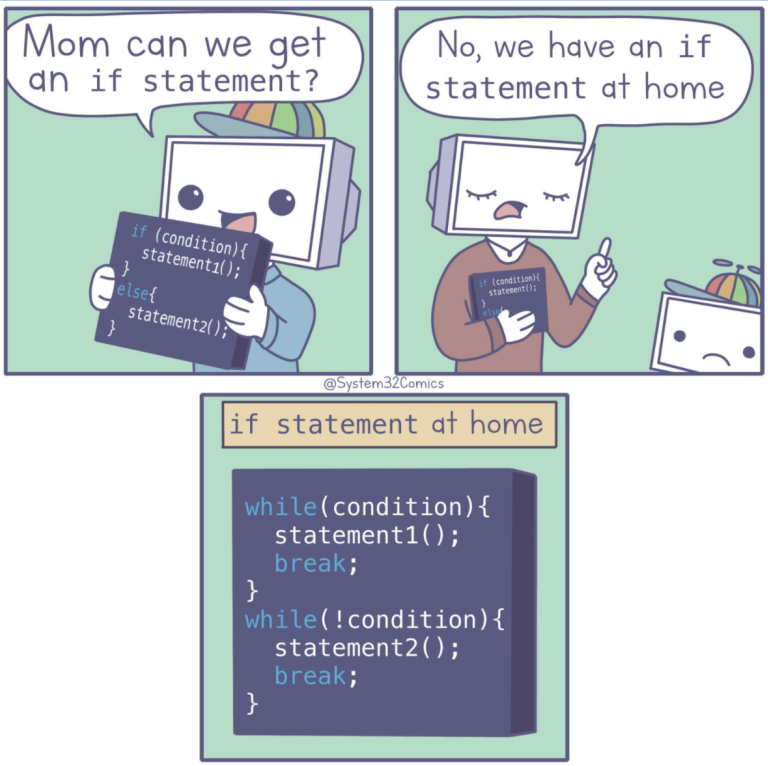
Agenda

1. Jump Statements
    1. Pass
    2. Continue
    3. Break
2. Nested Loops
3. GCD
4. LCM



Q → Write a code to print →

1 4 7 10 13 16

+3 +3...

```
for i in range (1, 17, 3):
    print (i, end = " ")
```

Q → Write a code to print →

n → 1, 3, 7, 13, 21, 31, 43

j → 2 4 6 8 10 12

```
n = 1
j = 2
while n <= 31 :
    print (n, end = ", ")
    n += j
    j += 2
print (n)
```

Pass → A placeholder for future reference.

```python
if True:
    pass # represents an empty block / statement in Python
```

```python
for i in range(5):  0 — 4
    if i == 3:
        pass
    print(i) #0 1 2 3 4
```

Continue → Disregards the code after continue statement & goes to next iteration.

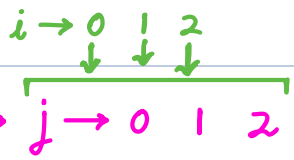
```
for i in range(5):        0 — 4
    if i == 3:            ✓
        continue
    print(i)              # 0 1 2 4
```

Break → Terminate the loop & control goes out of the loop.

```
for i in range(5):        0 — 4
    if i == 3:
        break
    print(i)              # 0 1 2
```

Nested Loop → loop inside a loop.

```
1  for i in range(3):
2      for j in range(3):
3          print(i, j)
```



i	j
0	0
0	1
0	2
1	0
1	1
1	2
2	0
2	1
2	2

Question: Write a program to print a `N x N` matrix of `*`

```
Example Input:
3

Example Output:
***
***
***
```

```
N = int(input())
for i in range(N):
    for j in range(N):
        print("*", end="") ✓
    print()
```

N = 2

i	j	
0	0	*
	1	*
1	0	*
	1	*

o/p → ** (2)
** (2)

Q → Identify the task of this code.

```
1 number = int(input())
2 for i in range(1, number + 1):
3     for j in range(1, 11):
4         print(i*j, end = " ")
5     print()
```

1 —— N
1 —— 10

Quiz →

What will be the output of the following code snippet?

```
for i in range(3):
    for j in range(i, 3):
        print("*", end=" ")
    print()
```

GCD → Greatest Common Divisor

10 → 1 2 5 10

15 → 1 3 5 15

gcd (10, 15) = 5

24 → 1 2 3 4 6 8 12 24

16 → 1 2 4 8 16

gcd (24, 16) = 8

gcd (x, y) <= min (x, y)

```
d = min(x, y)
for i in range(d, 0, -1):
    if (x % i == 0 and y % i == 0):
        print(i)
        break
```

LCM → Lowest Common Multiple

2 → 2 4 6 8 **10** 12 . . .

5 → 5 **10** 15 . . . lcm(2, 5) = 10

6 → 6 12 18 **24** 30 . . .

8 → 8 16 **24** 32 . . . lcm(6, 8) = 24

$$lcm(x, y) >= max(x, y)$$

```
l = max(x, y)
while True:
    if l % x == 0 and l % y == 0:
        print(l)
        break
    l += 1
```

$$gcd(x, y) * lcm(x, y) = x * y$$