## Problem solving

```
# Quiz
```

```
for i in range(10, -1, -3):
    if i == 1:
        print(i, end="")
    else:
        print(i, end = ',')
```

```
10,7,4,1
```

*Problem 1: Print the following numbers*

1, 3, 5, 7, 9, 11

```
for i in range(1, 12, 2):
    print(i, end=" ")
```

```
1 3 5 7 9 11
```

*Problem 2: Print the following numbers:*

1, 4, 7, 10, 13, 16

```
# AP
```

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

```
1 4 7 10 13 16
```

*Problem 3: Print the following numbers:*

1, 3, 6, 10, 15, 21

```
# step?
```

```
i = 1
while i <= 5:
    i += 1
    print(i, end=" ")
```

```
2 3 4 5 6
```

```
start = 1
jump = 2

while start <= 21:
    print(start, end=" ")
    start += jump
```

```
1 3 5 7 9 11 13 15 17 19 21
```

```
start = 1
jump = 2

while start <= 21:
    print(start, end=" ")
    start += jump

    # also increment the jump
    jump += 1
```

```
1 3 6 10 15 21
```

## continue, break and pass

```
# Continue

for i in range(10):
    if i == 5:
        continue

    else:
        print(i, "Garland offered")
```

```
0 Garland offered
1 Garland offered
2 Garland offered
3 Garland offered
```

```
4 Garland offered
6 Garland offered
7 Garland offered
8 Garland offered
9 Garland offered
```

```
# break

for i in range(10):
    if i == 5:
        break

    else:
        print(i, "Garland offered")
```

```
0 Garland offered
1 Garland offered
2 Garland offered
3 Garland offered
4 Garland offered
```

*Problem 2*

Write a program that continually asks the user to enter a number until they enter a number 5. At this point the program should print how many numbers the user has entered. You may assume the user will only enter integers.

```
# shall we break?


while True:
    n = int(input())

    if n == 5:
        break
    else:
        print(n)
```

```
 1

1

 2

2
```

```
 3
3
 4
4
 6
6
 7
7
 8
8
 5
```

```
count = 0

while True:
    n = int(input())

    if n == 5:
        break

    count += 1
print(count)
```

```
 1
 2
 3
 4
 5
4
```

```
# pass

for i in range(1, 5):
    pass

# for i in range(1, 5):
```

*Problem 3:*

Given a number N, check if it is prime

```
# Find factors

# 10

n = int(input())

for i in range(2, n+1):
    # check factors
    if n % i == 0:
        print(i)
```

```
 10
```

```
2
5
10
```

```
# check for prime

count = 0
n = int(input())

for i in range(1, n+1):
    # check factors
    if n % i == 0:
        count += 1


if count == 2:
    print("Prime")
else:
    print("Not prime", count)
```

```
 3
```

```
Prime
```

```python
# 2nd way

n = int(input())

for i in range(2, n):
    if n % i == 0:
        print("Not prime")
        break
    else:
        print("prime")
```

```
 9

prime
Not prime
```

*For else*

```python
n = int(input())

for i in range(2, n):
    if n % i == 0:
        print("Not prime")
        break

else:
    print("Prime")
```

```
 2

Prime
```

```python
n = int(input())

for i in range(2, n):
    if n % i == 0:
        print("Not prime")
        break
else:
    if n > 1:
        print("Prime")
    else:
        print("Not prime")
```

```
 1112121111117
```

```
Not prime
```

```
# Doubts
(sum(range(3,7)))
18
```