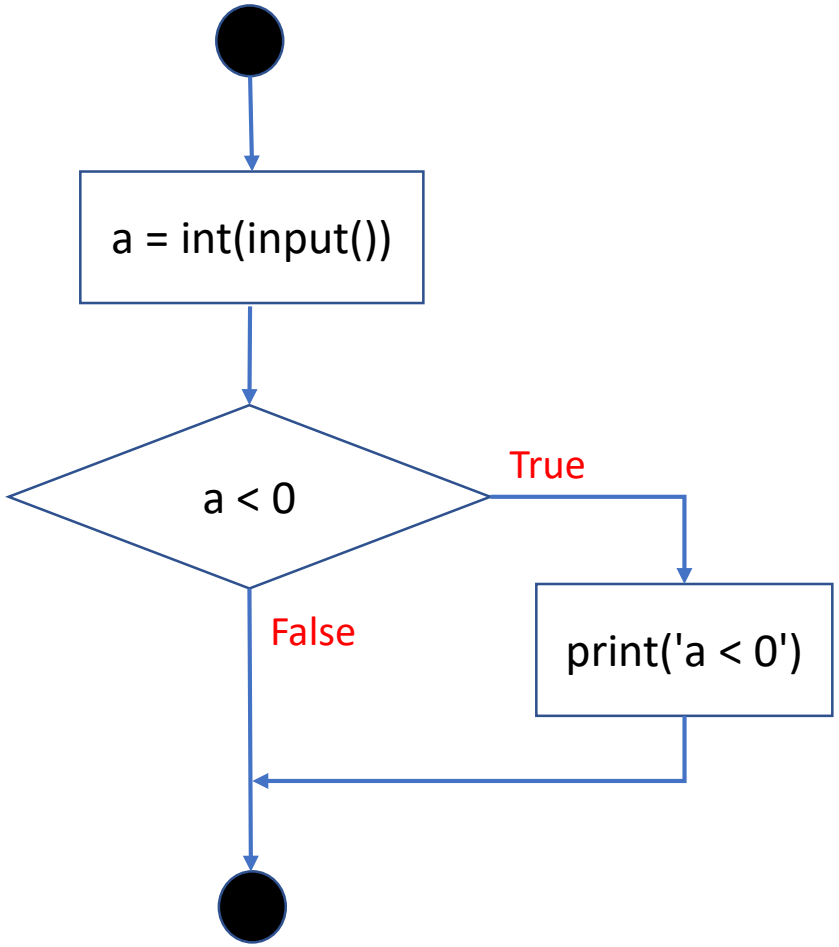
Flowchart (流程圖)

Flowchart symbols

Symbol	Symbol Name	Purpose
	Start/Stop	Used at the beginning and end of the algorithm to show start and end of the program.
	Process	Indicates processes like mathematical operations.
	Input/ Output	Used for denoting program inputs and outputs.
	Decision	Stands for decision statements in a program, where answer is usually Yes or No.
	Arrow	Shows relationships between different shapes.
	On-page Connector	Connects two or more parts of a flowchart, which are on the same page.
	Off-page Connector	Connects two parts of a flowchart which are spread over different pages.

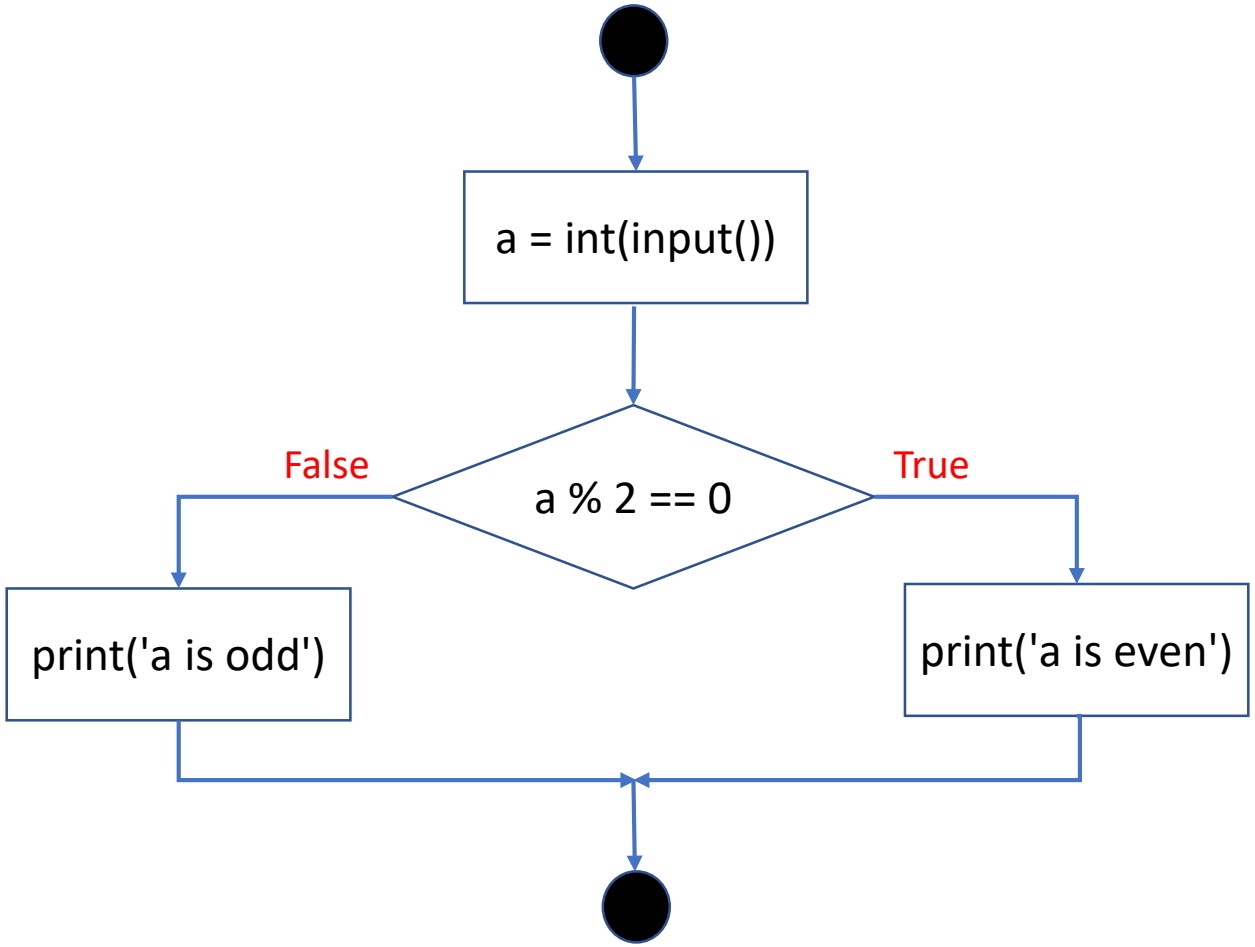
if statement

```
a = int(input())
if a < 0:
    print('a < 0')
```



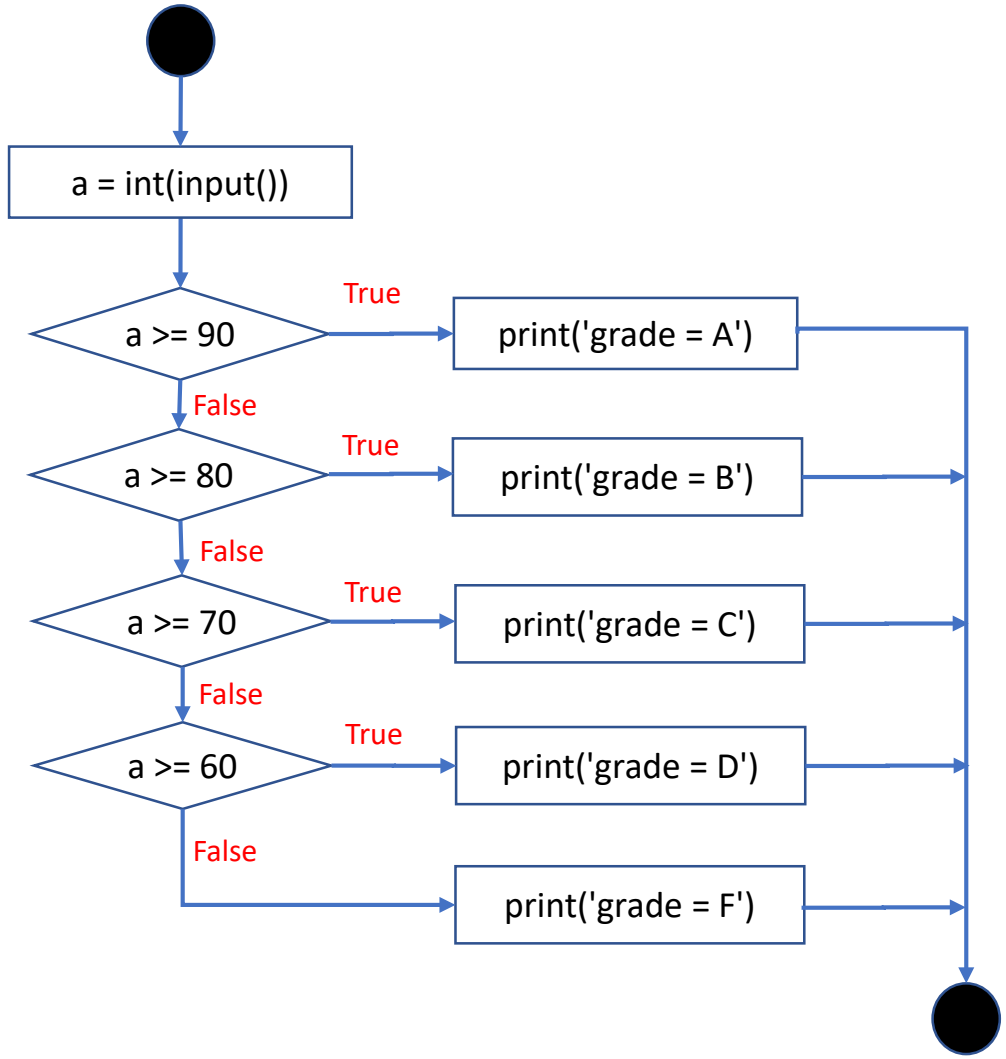
if statement

```
a = int(input())
if a % 2 == 0:
    print('a is even')
else:
    print('a is odd')
```

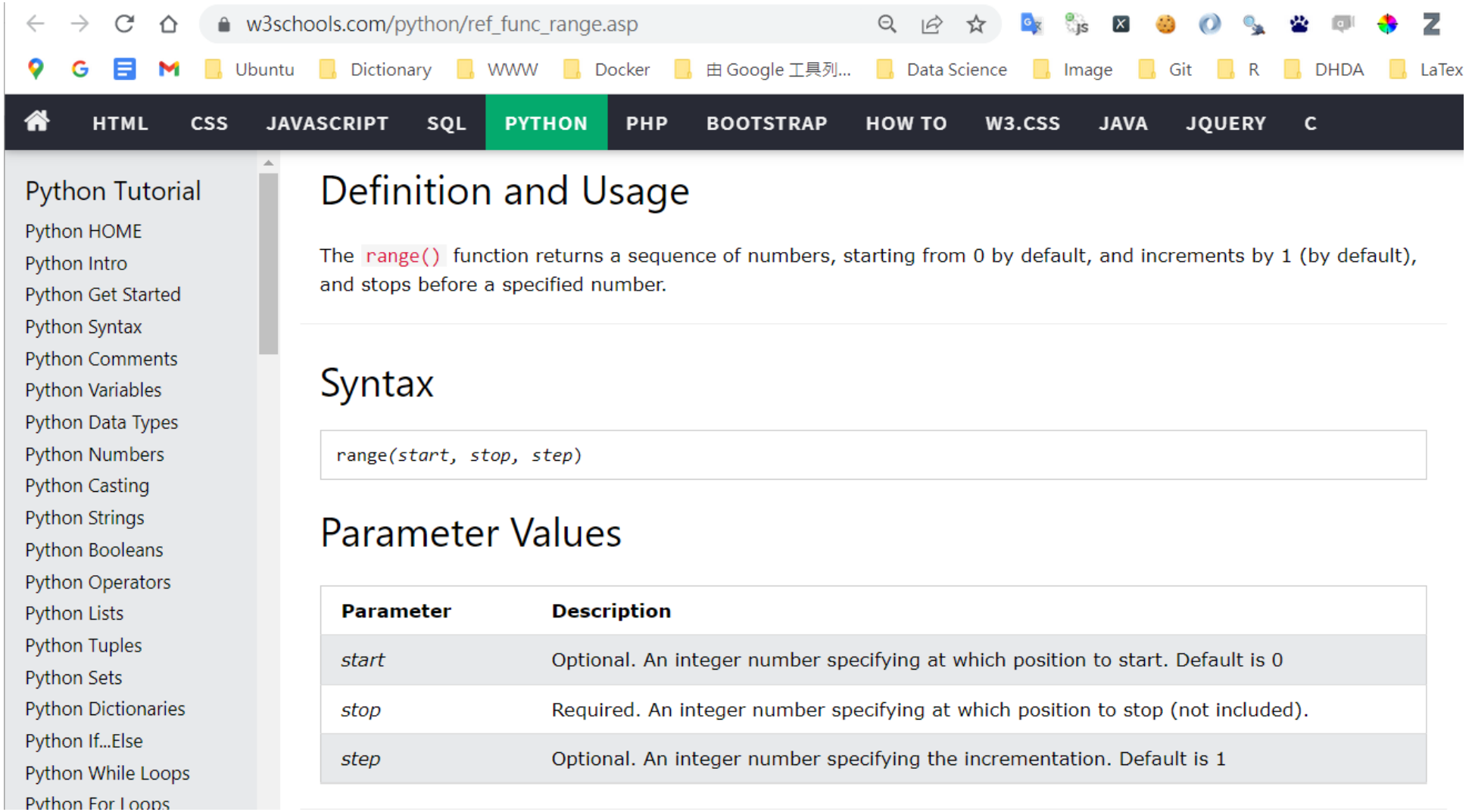


if statement

```
a = int(input())
if a >= 90:
    print('grade = A')
elif a >= 80:
    print('grade = B')
elif a >= 70:
    print('grade = C')
elif a >= 60:
    print('grade = D')
else:
    print('grade = F')
```

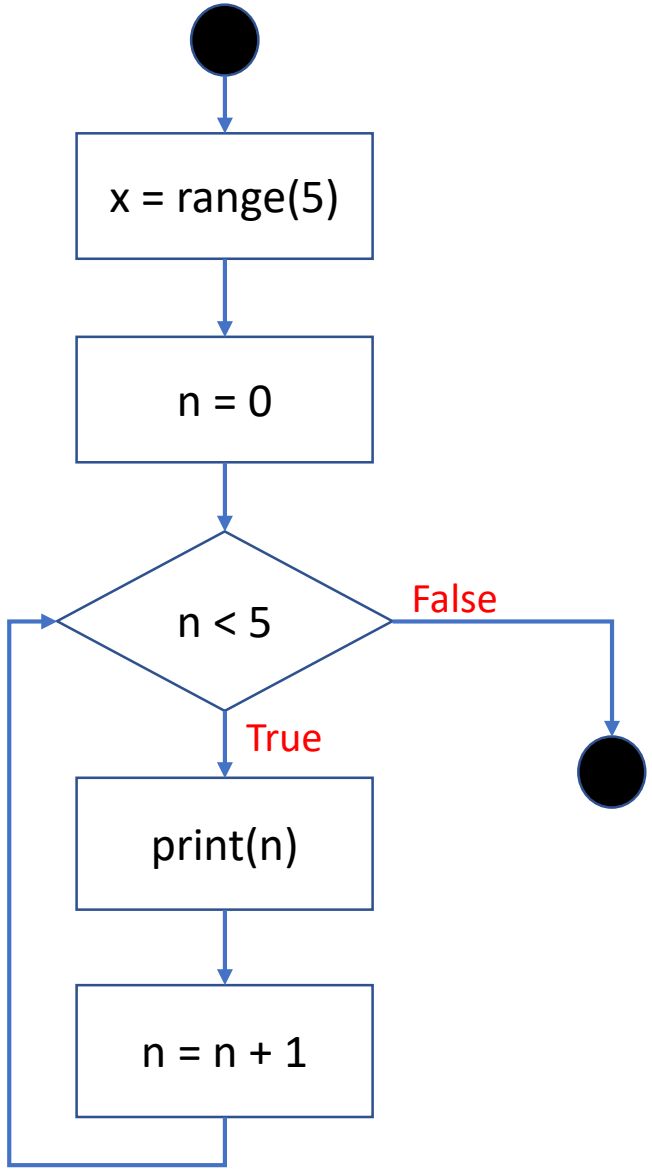


range() function



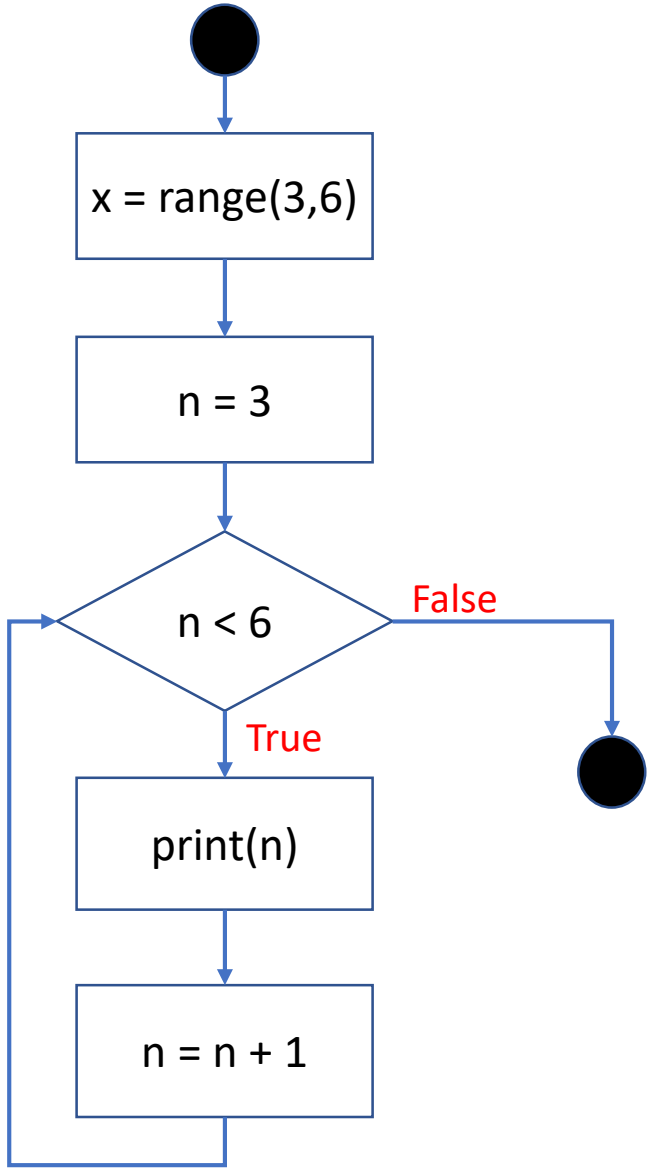
for loop

```
x = range(5)
for n in x:
    print(n)
```



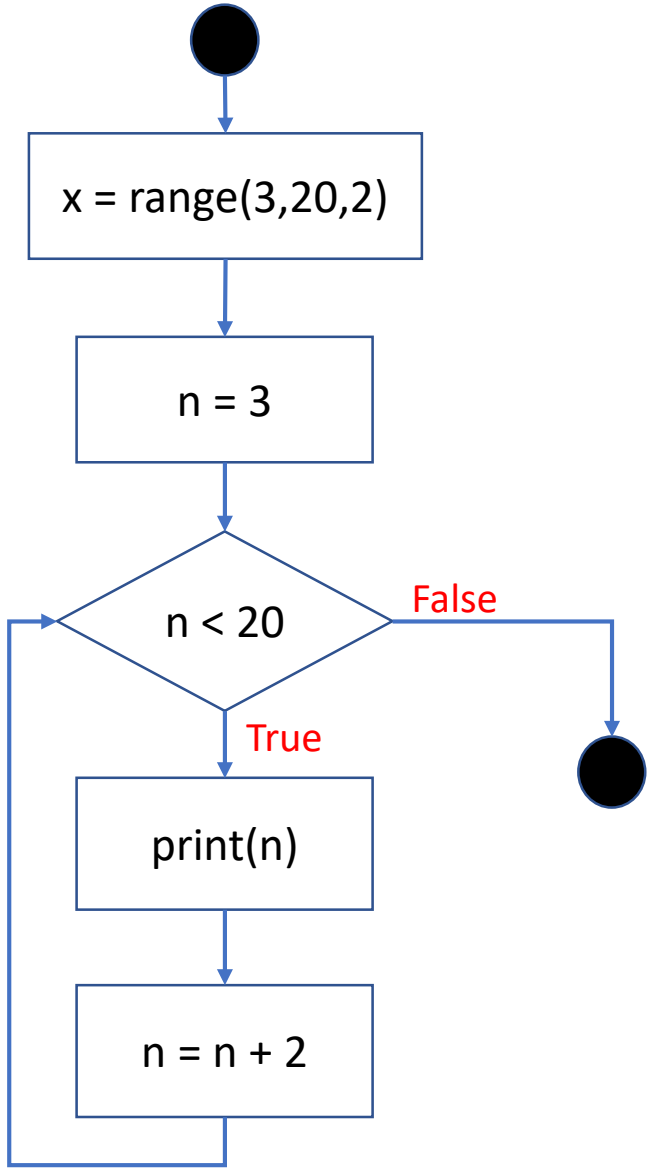
for loop

```
x = range(3, 6)
for n in x:
    print(n)
```

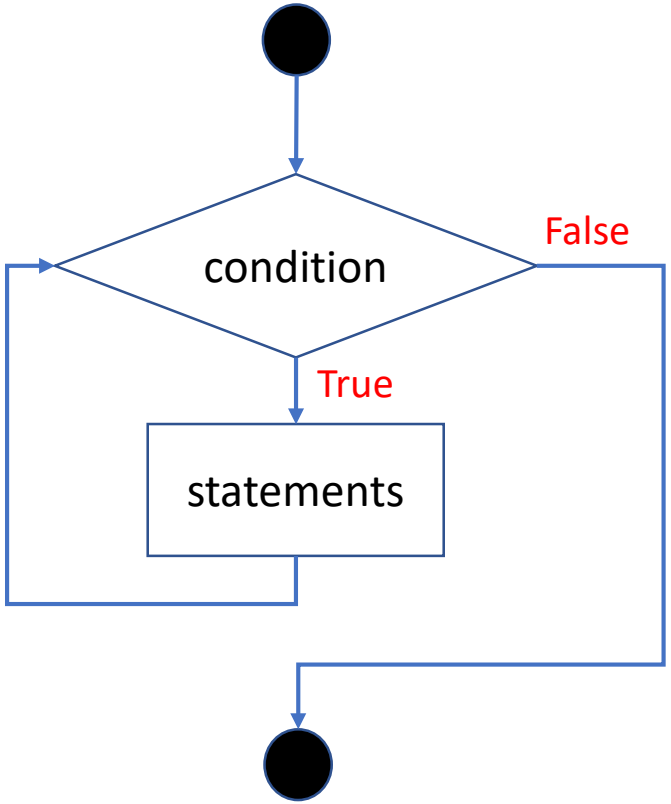


for loop

```
x = range(3, 20, 2)
for n in x:
    print(n)
```

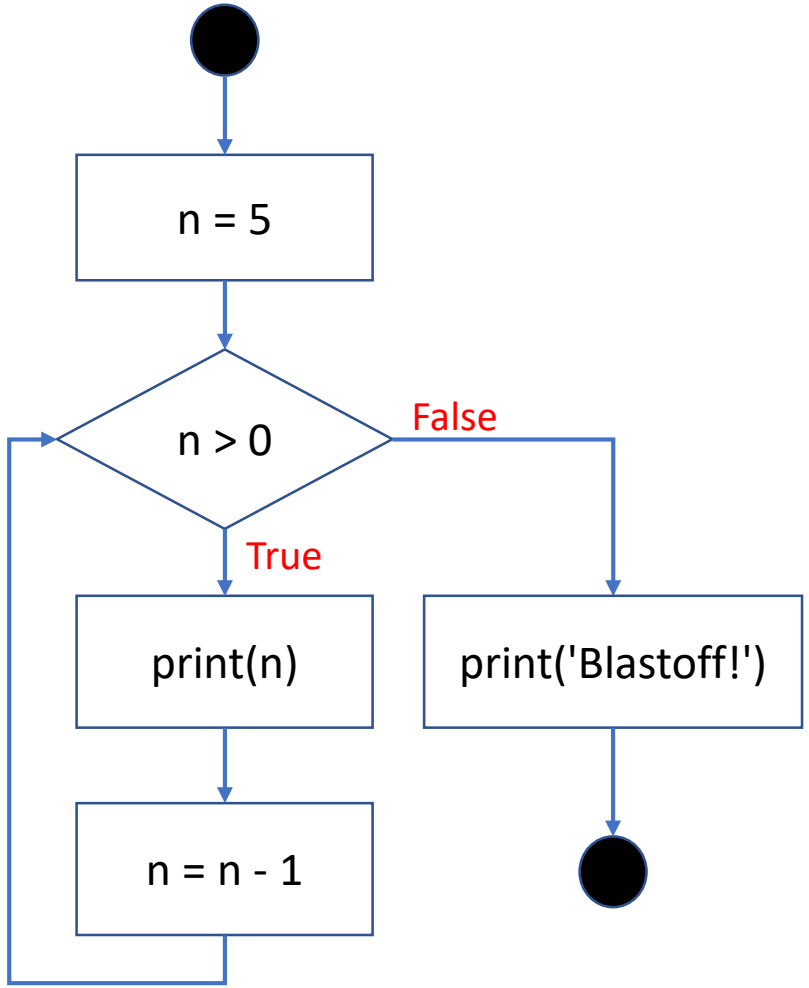


while loop



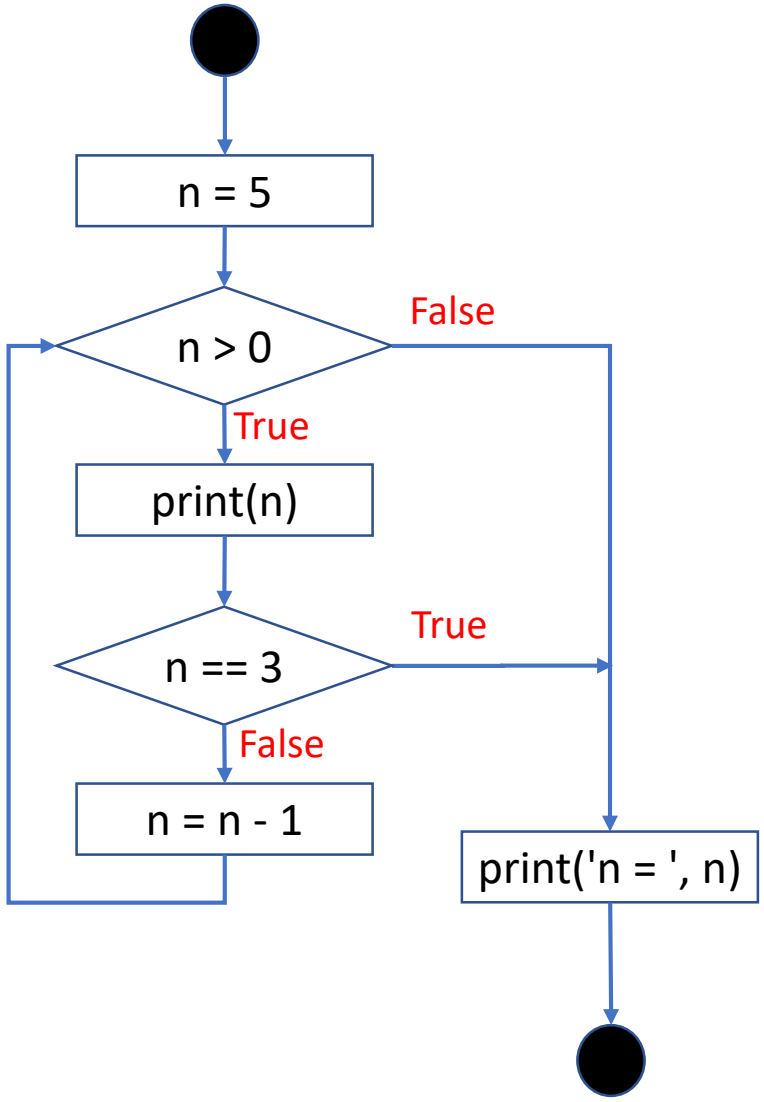
while loop

```
n = 5
while n > 0:
    print(n)
    n = n – 1
print('Blastoff!')
```



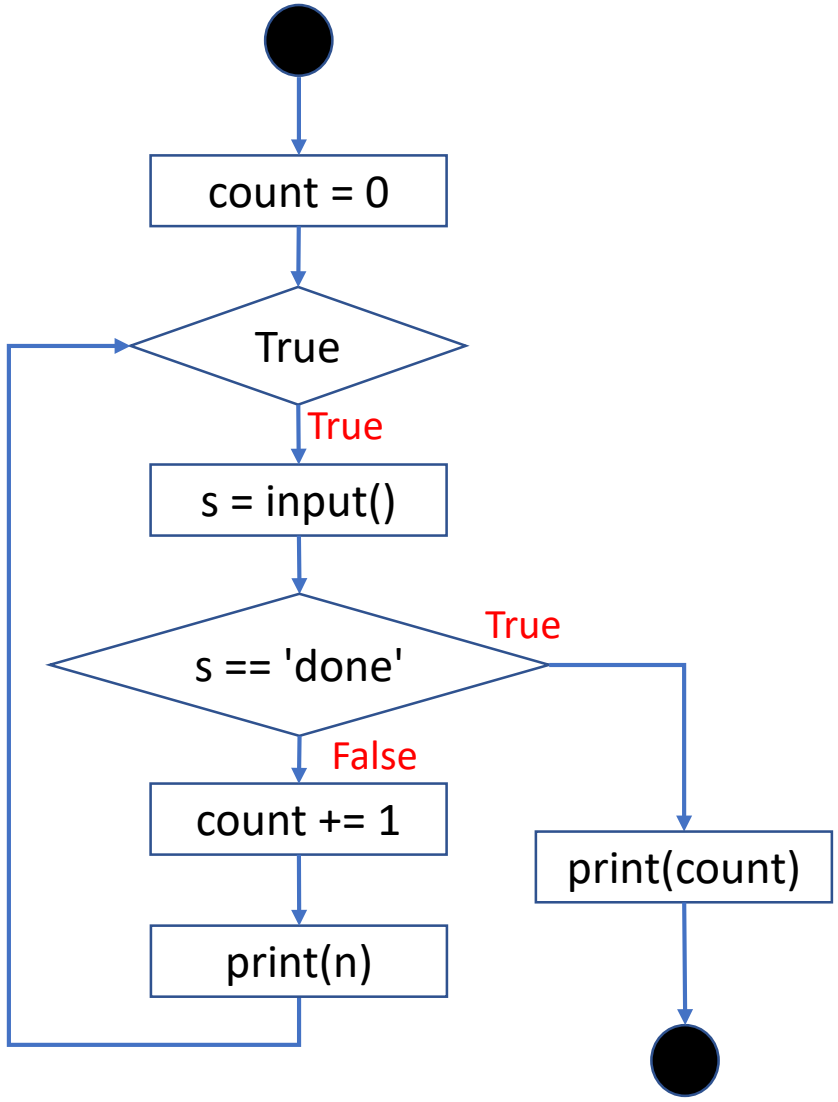
while loop
break

```
n = 5
while n > 0:
    print(n)
    if n == 3:
        break
    n = n – 1

print('n = ', n)
```



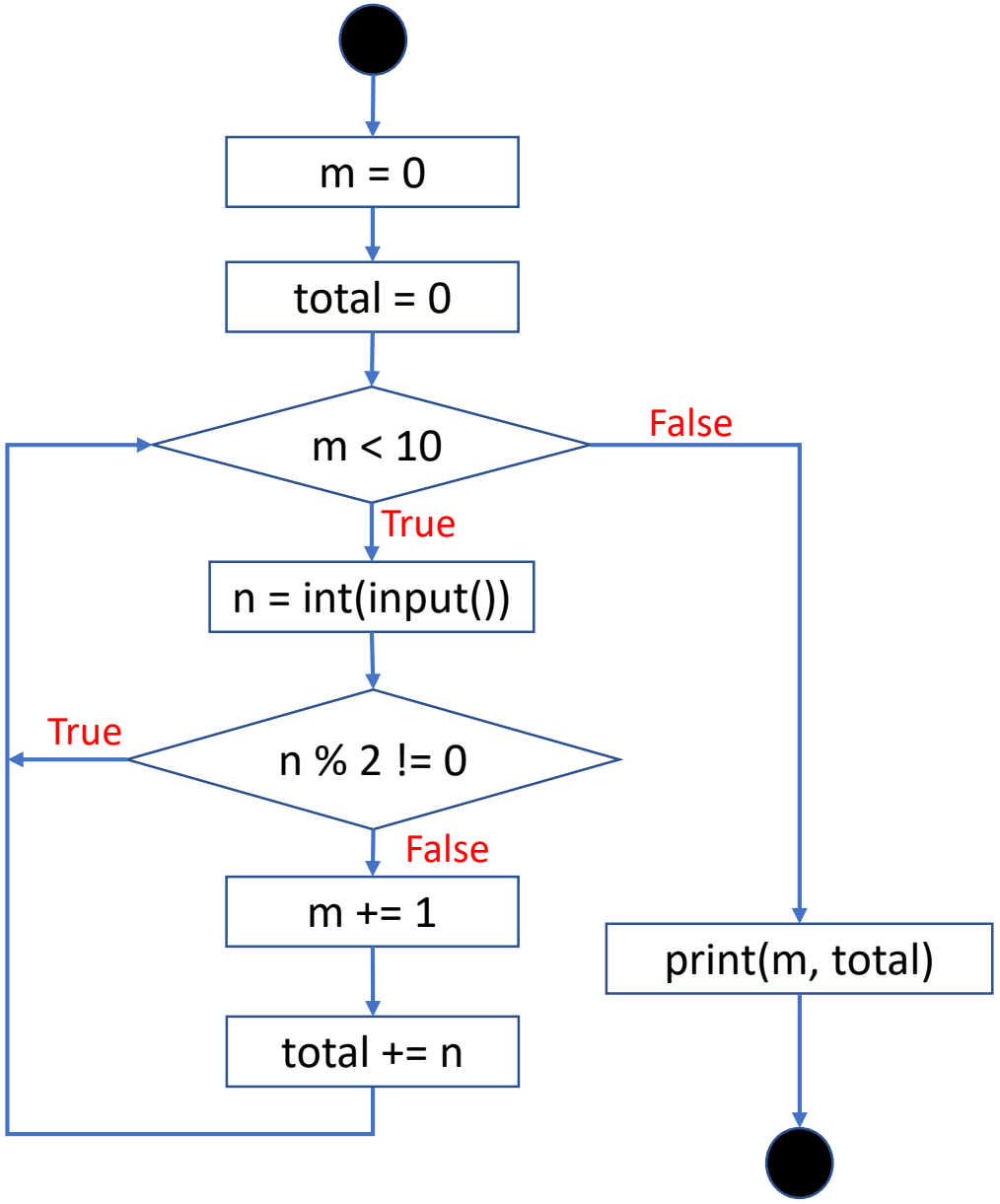
while loop
break

```
count = 0
while True:
    s = input()
    if s == 'done':
        break
    count += 1
    print(s)

print(count)
```



while loop
continue

```
m = 0
total = 0
while m < 10:
    n = int(input())
    if n % 2 != 0:
        continue
    m += 1
    total += n

print(m, total)
```



參考資料

- https://www.tutorialspoint.com/programming_methodologies/programming_methodologies_flowchart_elements.htm
- https://online.visual-paradigm.com/diagrams/tutorials/flowchart-tutorial/
- https://www.youtube.com/watch?v=GsfZD4oU7l0
- https://www.youtube.com/watch?v=Jh1BkgewvyU
- https://www.youtube.com/watch?v=lD5lV_zn48I