In [1]:
```
if 'Hello':
    print('The condition evaluated to True')
else:
    print('The condition evaluated to False')
```

```
The condition evaluated to True
```

In [2]:
```
if { 'a': 34}:
    print('The condition evaluated to True')
else:
    print('The condition evaluated to False')
```

```
The condition evaluated to True
```

In [3]:
```
if None:
    print('The condition evaluated to True')
else:
    print('The condition evaluated to False')
```

```
The condition evaluated to False
```

In [4]:
```
a_number = 15
```

In [5]:
```
if a_number % 2 == 0:
    print("{} is even".format(a_number))
    if a_number % 3 == 0:
        print("{} is also divisible by 3".format(a_number))
    else:
        print("{} is not divisible by 3".format(a_number))
else:
    print("{} is odd".format(a_number))
    if a_number % 5 == 0:
        print("{} is also divisible by 5".format(a_number))
    else:
        print("{} is not divisible by 5".format(a_number))
```

```
15 is odd
15 is also divisible by 5
```

In [6]:
```
a_number = 9
```

In [7]:
```
if a_number % 2 == 0:
elif a_number % 3 == 0:
    print('{} is divisible by 3 but not divisible by 2')
```

```
  File "<ipython-input-7-77268dd66617>", line 2
    elif a_number % 3 == 0:
    ^
IndentationError: expected an indented block
```

In [9]:
```
if a_number % 2 == 0:
    pass
elif a_number % 3 == 0:
    print('{} is divisible by 3 but not divisible by 2'.format(a_number))
```

```
9 is divisible by 3 but not divisible by 2
```

In [10]:
```
result = 1
i = 1

while i<= 100:
    result = result * i
    i = i+1

print('The factorial of 100 is : {}'.format(result))
```

```
The factorial of 100 is : 933262154439441526816992388562667004907159682643816214685929638952175999932299156089414639761565182862536979208272237582511852109168640000000000000000000000000
```

In [11]:
```
result = 2
i = 2

while i<= 100:
    result = result * i
    i = i+1

print('The factorial of 100 is : {}'.format(result))
```

```
The factorial of 100 is : 186652430887888305363398477712533400981431936528763242937185927790435199986459831217882927952313036572507395841654447516502370421833728000000000000000000000000
```

In [12]:
```
%%time

result = 1
i = 1

while i <= 1000:
    result *= i # same as result = result * i
    i += 1 # same as i = i+1

print(result)
```

```
402387260077093773543702433923003985719374864210714632543799910429938512398629020592044
208486969404800479988610197196058631666872994808558901323829669944590997424504087073759
918823627727188732519779505950995276120874975462497043601418278094646496291056393887437
886487337119181045825783647849977012476632889835955735432513185323958463075557409114262
417474349347553428646576611667797396668820291207379143853719588249808126867838374559731
746136085379534524221586593201928090878297308431392844403281231558611036976801357304216
168747609675871348312025478589320767169132448426236131412508780208000261683151027341827
977704784635868170164365024153691398281264810213092761244896359928705114964975419909342
221566832572080821333186116811553615836546984046708975602900950537616475847728421889679
646244945160765353408198901385442487984959953319101723355556602139450399736280750137837
615307127761926849034352625200015888535147331611702103968175921510907788019393178114194
545257223865541461062892187960223838971476088506276862967146674697562911234082439208160
153780889893964518263243671616762179168909779911903754031274622289988005195444414282012
187361745992642956581746628302955570299024324153181617210465832036786906117260158783520
751516284225540265170483304226143974286933061690897968482590125458327168226458066526769
958652682272807075781391858178889652208164348344825993266043367660176999612831860788386
150279465955131156552036093988180612138558600301435694527224206344631797460594682573103
790084024432438465657245014402821885252470935190620929023136493273497565513958720559654
228749774011413346962715422845862377387538230483865688976461927383814900140767310446640
259899490222221765904339901886018566526485061799702356193897017860040811889729918311021
171229845901641921068884387121855646124960798722908519296819372388642614839657382291123
125024186649353143970137428531926649875337218940694281434118520158014123344828015051399
694290153483077644569099073152433278288269864602789864321139083506217095002597389863554
277196742822248757586765752344220207573630569498825087968928162753848863396909959826280
956121450994871701244516461260379029309120889086942028510640182154399457156805941872748
998094254742173582401063677404595741785160829230135358081840096996372524230560855903700
624271243416909004153690105933983835777939410970027753472000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000
Wall time: 6.86 ms
```

In [13]:
```
%%time

result = 1
i = 1

while i <= 100:
    result *= i # same as result = result * i
    i += 1 # same as i = i+1

print(result)
```

```
933262154439441526816992388562667004907159682643816214685929638952175999932299156089414
639761565182862536979208272237582511852109168640000000000000000000000000
Wall time: 0 ns
```

In [14]:
```
line = '*'
max_length = 10

while len(line) <= max_length:
    print(line)
    line += "*"

while len(line) > 0:
    print(line)
    line = line[:-1]
```

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

In [15]:
```
line = 'JAY'
max_length = 10

while len(line) <= max_length:
    print(line)
    line += "JAY"

while len(line) > 0:
    print(line)
    line = line[:-1]
```

```
JAY
JAYJAY
JAYJAYJAY
JAYJAYJAYJAY
JAYJAYJAYJA
JAYJAYJAYJ
JAYJAYJAY
JAYJAYJA
JAYJAYJ
JAYJAY
JAYJA
JAYJ
JAY
JA
J
```

In [ ]:
```

```