Homework 5

Example:

Print Function

print() function comes with a parameter called 'end'. By default, the value of this parameter is '\n', i.e. the new line character.

In [2]:
```python
for i in range (3):
    print(i)
```

```
0
1
2
```

In [3]:
```python
for i in range(3):
    print(i, end='   ')
```

```
0   1   2
```

In [4]:
```python
for i in range(3):
    print(i, end='*')
```

```
0*1*2*
```

In [5]:
```python
for i in range(3):
    print(i, end='')
```

```
012
```

print with placeholders %

```
%d  print as an integer
%f  print as a float
%s  print as a string

%m.nf
%.2f float with 2 digits after decimal
%6.2 float with 6 digits integer and 2 digits after decimal
```

In [3]:
```python
x = 100
y = 1234.5678
print('first number is %d, second number is %f'%(x, y))
print('first number is %4d, second number is %4.2f'%(x, y))
```

```
first number is 100, second number is 1234.567800
first number is  100, second number is 1234.57
```

Homework 1:

Print a Diamond Shape of stars based on an odd number of input by the user

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

Example: Swap the value of two variables

In [3]:
```python
a = 3
b = 7
#a, b = b, a
print('a=', a, 'b=', b)
```

```
a= 7 b= 3
```

Without using Python's swap assignment directly

In [4]:
```python
a = 3
b = 7
# swapping
c = a
a = b
b = c
print('a=', a, 'b=', b)
```

```
a= 7 b= 3
```

Example

Compute the greatest common divisor (GCD) of two positive integers

integers

In [9]:
```python
a = int(input('number 1: '))
b = int(input('number 2:'))

gcd = 1
if a > b:
    gcd = b
else:
    gcd = a

for x in range(gcd, 0, -1):
    if a%x == 0 and b%x == 0:
        print('gcd', x)
        break
```

```
number 1: 16
number 2:24
gcd 8
```

Homework 2

Get the least common multiple (LCM) of two positive integers

https://en.wikipedia.org/wiki/Least_common_multiple
(https://en.wikipedia.org/wiki/Least_common_multiple)

```
Hint: Let user input two numbers, Use while True, start to try with the
smaller number, test if it is the LCM. If not, add 1 and test again.
```

Homework 3

Check if a user input number is a Prime Number

Try to make your program to make as least calculation as possible

Homework 4

Find 10 prime numbers that are bigger than 12345

Homework 5

Chicken Story -1: 鸡兔同笼

Solving the famous ancient Chinese math problem called "Chickens and Rabbits in a Cage."

A farmer put chickens and rabbits in a cage. There are totally 49 animals and 124 legs in the cage. How many rabbits are there in the cage?

Your output should be:

There are totally ?? rabbits in the cage!

In [ ]: ▶|