```
print('1', '2', sep='+', end='-')
print('1', '2', end='+', sep='-')
```

```
1+2-1-2+
```

Functions

```
def my_absolute(x): # user defined function
  if x >= 0:
    return x
  else:
    return (-1)*x
```

```
  File "<ipython-input-10-95ddd387f25e>", line 4
    print('hello world')
    ^
IndentationError: unexpected indent
```

SEARCH STACK OVERFLOW

```
y = my_absolute(3.4)
print(y)
```

```
3.4
```

```
z = my_absolute(-3.4)
print(z)
```

```
3.4
```

```
print(my_absolute(-99.123))
```

```
99.123
```

Distance function

```
def distance_travelled(u, t, a = 9.8):
  s = u*t + 0.5*a*t*t

  return s

res = distance_travelled(0, 1) # a is not passed
print(res)
```

```
4.9
```

```
res2 = distance_travelled(0, 1, 3.72)
print(res2)
```

```
1.86
```

```
def print_date(d, m, y, style=0):
    if style == 0:  # American
        print(m, '/', d, '/', y)
    elif style == 1:  # European
        print(d, '/', m, '/', y)
    else:
        print('Invalid Style')

print_date(30, 5, 2022)
```

```
5 / 30 / 2022
```

```
def print_date(d=1, m=1, y=2000, style=0):
    if style == 0:  # American
        print(m, '/', d, '/', y)
    elif style == 1:  # European
        print(d, '/', m, '/', y)
    else:
        print('Invalid Style')

print_date(d=30, y=2022)
print_date(30, 1)

print_date(30, 1, style=1, y=2022) # d and m are positional,
# style and y are keyword

# print_date(30, 1, style=1, y=2022, d=29)
```

```
1 / 30 / 2022
1 / 30 / 2000
30 / 1 / 2022
```

Keyword Arguments

```
print('5', '3', '2')
```

```
5 3 2
```

```
print('5', '3', '2', sep='+')
```

```
5+3+2
```

```
print('5', '3', '2', '+')
```

```
5 3 2 +
```

```
def print_book_description(title, author, publisher, year, version, num_pages):
  print("The book's title is:", title)
  print("The book's author is:", author)
  print("The book's publisher is:", publisher)
  print("The book's year is:", year)
  print("The book's version is:", version)
  print("The book's has these many pages:", num_pages)

print_book_description('The Lord of the Rings', 'J. R. R Tolkien',
                       'George Allen & Uwin', 1954, 1.0, 456)
```

```
The book's title is: The Lord of the Rings
The book's author is: J. R. R Tolkien
The book's publisher is: George Allen & Uwin
The book's year is: 1954
The book's version is: 1.0
The book's has these many pages: 456
```

```
s = "Sahil\"s"

print(s)
```

```
Sahil"s
```

```
print_book_description('J. R. R Tolkien', 'The Lord of The Rings',
                       'George Allen & Uwin', 1954, 1.0, 456)
```

```
The book's title is: J. R. R Tolkien
The book's author is: The Lord of The Rings
The book's publisher is: George Allen & Uwin
The book's year is: 1954
The book's version is: 1.0
The book's has these many pages: 456
```

```
print_book_description(author='J. R. R Tolkien', title='The Lord of The Rings',
                       publisher='George Allen & Uwin',
                       year=1954,
                       version=1.0,
                       num_pages=456)
```

```
The book's title is: The Lord of The Rings
The book's author is: J. R. R Tolkien
The book's publisher is: George Allen & Uwin
The book's year is: 1954
The book's version is: 1.0
The book's has these many pages: 456
```

Quiz

```
def print_date(d=1, m=1, y=2022, s=0):
    if s == 0:  # American
        print(m, '/', d, '/', y)
    elif s == 1:  # European
        print(d, '/', m, '/', y)
    else:
        print('Invalid Style')

print_date(d=30, y=2022)
```

```
1 / 30 / 2022
```

Some Important Library Functions

```
s = abs(-1)
print(S)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-36-e64c54c5141e> in <module>()
      1 s = abs(-1)
----> 2 print(S)
      3

NameError: name 'S' is not defined
```

SEARCH STACK OVERFLOW

```
s = abs(-1) # in-built function, present in the default library
print(s)
```

```
max_of_three = max(3, 1, 2)

print(max_of_three)
```

```
3
```

```
res_max = max(3, 1, 2, 100, 124, 52, 35)

print(res_max)
```

```
124
```

```
x = sqrt(10)
print(x)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-40-d66001f7c48c> in <module>()
----> 1 x = sqrt(10)
      2 print(x)

NameError: name 'sqrt' is not defined
```

SEARCH STACK OVERFLOW

Math library

```
import math
```

```
print(type(math))
```

```
<class 'module'>
```

```
x = math.sqrt(10)
print(x)
```

```
3.1622776601683795
```

```
y = 10**(1/2)
print(y)
```

```
3.1622776601683795
```

```
x = 9**2
print(x)
```

```
81
```

```
z = 9**3
print(z)
```

```
729
```

```
print(math.pi)
```

```
3.141592653589793
```

```
print(math.ceil(9.6))
```

```
10
```

```
print(math.sqrt(1001))
```

```
31.63858403911275
```

```
print(math.sqrt(1332))
```

```
36.49657518178932
```

```
int(36.49657518178932)
```

```
36
```

```
print(36*36)
```

```
1296
```

```
print(3.14*72*72)
```

```
16277.76
```

```
x = 16277.76
print(math.ceil(x))
```

```
16278
```

```
print(math.pi)
```

```
3.141592653589793
```

```
print(math.pi * 72*72)
```

```
16286.016316209487
```

```
y = 16286.016316209487
print(math.ceil(y))
```

```
16287
```

Doubts

```
def add(x, y):
  return x + y

r = add(1, 3)
z = add(2.5, 6.5)
y = add(3, 9)

print(r + z + y)
```

```
25.0
```

```
1.0 == 1 # it is same as 1.0 == 1.0, automatically type conversion happens
# for 1
```

```
True
```

```
-1.0 == 1
```

```
False
```