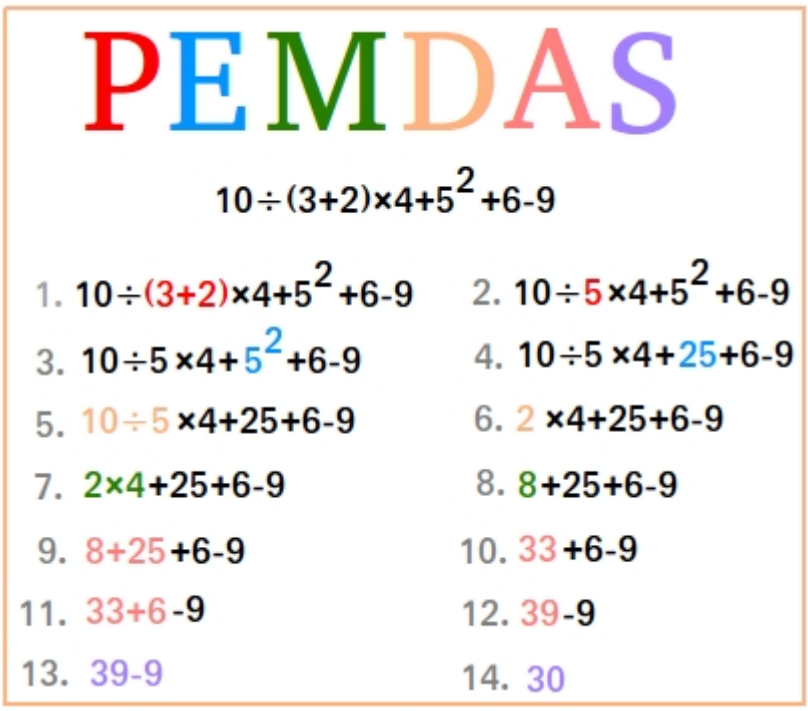
# Python

```
# PEMDASLR                        LR - Left to Right
# ()
# **
# * /
# + -

# The order of operations is a rule that tells the correct sequence of steps for
# evaluating a math expression. We can remember the order using PEMDAS:
# Parentheses,
# Exponents,
# Multiplication and Division (from left to right),
# Addition and Subtraction (from left to right).
```




```
# How to add two decimal in python
float = 2.1
format_float = "{:.2f}".format(float)
print(format_float)
# 2.10
```

```
# How can I reorder a list
import random
answer_list = [1, 2, 3, 4, 5]
random.shuffle(answer_list)
print(answer_list)
```

```
# How can i select a random word in the list
import random
answer_list = [1, 2, 3, 4, 5]
random.choice(answer_list)
print(answer_list)
```

```
# How to Find the Index of Element in a List
fruits = ['apple', 'banana', 'cherry']
x = fruits.index("cherry")
print(x)
# 2
```

```
# Returns a number between 3 and 9 (both included)
import random
print(random.randint(3, 9))
```

```
# Modulo
# It's used to get the remainder of a division.
7 % 3
# 3 + 3 + 1
1
```

```
# Join

myTuple = ("John", "Peter", "Vicky")

x = "#".join(myTuple)

print(x)

# John#Peter#Vicky
```

```
# replace()
```

```
txt = "I like bananas"

x = txt.replace("bananas", "apples")

print(x)

# I like apples
```

```
# readlines()

# The readlines() method returns a list containing each line in the file as a list item.

f = open("demofile.txt", "r")

print(f.readlines())

# ['Hello! Welcome to demofile.txt\n', 'Testing purposes.\n', 'Good Luck!']
```

```
# strip()

txt = "     banana     "

x = txt.strip()

print("of all fruits", x, "is my favorite")

# of all fruits banana is my favorite
```

```
# Inheritance

class Person:
  def __init__(self, fname, lname):
    self.firstname = fname
    self.lastname = lname

  def printname(self):
    print(self.firstname, self.lastname)

class Student(Person):
  def __init__(self, fname, lname, year):
    super().__init__(fname, lname)
    self.graduationyear = year

  def welcome(self):
    print("Blcm", self.firstname, self.lastname, "to the clz of", self.graduationyear)

x = Student("Dev", "Ed", 2019)
x.welcome()

# Blcm Dev Ed to the clz of 2019
```

```
# CSV

#Using just file methods
with open("weather_data.csv") as data_file:
    data = data_file.readlines()
    print(data)


#Using csv library
import csv

with open("weather_data.csv") as data_file:
    data = csv.reader(data_file)
    temperatures = []
    for row in data:
        if row[1] != "temp":
            temperatures.append(int(row[1]))
    print(temperatures)


# Using the pandas library
import pandas

data = pandas.read_csv("weather_data.csv")
print(type(data))
print(type(data["temp"]))

data_dict = data.to_dict()
print(data_dict)

temp_list = data["temp"].to_list()
print(len(temp_list))

print(data["temp"].mean())
print(data["temp"].max())

#Get Data in Columns
print(data["condition"])
print(data.condition)

# Get Data in Row
print(data[data.day == "Monday"])
print(data[data.temp == data.temp.max()])

# Get Row data value
monday = data[data.day == "Monday"]
monday_temp = int(monday.temp)
monday_temp_F = monday_temp * 9/5 + 32
print(monday_temp_F)

# Create a dataframe from scratch
data_dict = {
    "students": ["Amy", "James", "Angela"],
    "scores": [76, 56, 65]
}
```

```
data = pandas.DataFrame(data_dict)
data.to_csv("new_data.csv")
```

```
# Comprehension

#For Loop
numbers = [1, 2, 3]
new_list = []
for n in numbers:
    add_1 = n + 1
    new_list.append(add_1)

#List Comprehension
new_list = [n + 1 for n in numbers]

#String as List
name = "Angela"
letters_list = [letter for letter in name]

#Range as List
range_list = [n * 2 for n in range(1, 5)]

#Conditional List Comprenhension
names = ["Alex", "Beth", "Caroline", "Dave", "Elanor", "Freddie"]
short_names = [name for name in names if len(name) < 5]

upper_case_names = [name.upper() for name in names if len(name) > 4]

#Dictionary Comprehension
import random
student_grades = {name: random.randint(1, 100) for name in names}
print(student_grades)

passed_students = {
    student: grade
    for (student, grade) in student_grades.items() if grade >= 60
}
print(passed_students)
```

## ☐ Turtle

turtle - Turtle graphics - Python 3.10.0 documentation

Drawing state Pull the pen down - drawing when moving. Pull the pen up - no drawing when moving. Set the line thickness to width or return it. If resizemode is set to "auto" and turtleshape is a polygon, that polygon is drawn with the same line thickness.

https://docs.python.org/3/library/turtle.html

## ☐ Colorgram

### colorgram.py

colorgram.py is a Python library that lets you extract colors from images. Compared to other libraries, the colorgram algorithm's results are more intense. colorgram.py is a port of colorgram.js,

https://pypi.org/project/colorgram.py/

## ☐ Auto-py-to-exe

### auto-py-to-exe

A .py to .exe converter using a simple graphical interface and PyInstaller in Python. 阅读中文版的README ， 点击 这里 To have the interface displayed in the images, you will need

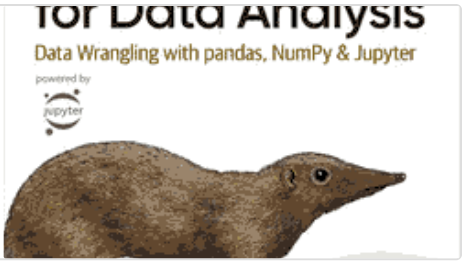
https://pypi.org/project/auto-py-to-exe/

## ☐ Pandas

### pandas

pandas is a fast, powerful, flexible and easy to use open source data analysis and manipulation tool, built on top of the Python programming language.

https://pandas.pydata.org/




## CSV - Comma Separated Values

## ☐ Pyperclip

### pyperclip

Pyperclip is a cross-platform Python module for copy and paste clipboard functions. It works with Python 2 and 3. Install on Windows: pip install pyperclip Install on Linux/macOS: pip3

https://pypi.org/project/pyperclip/

- [ ] Pygame

pygame

Skip to main content Warning Some features may not work without JavaScript. Please try enabling it if you encounter problems. pygame is a free and open-source cross-platform

https://pypi.org/project/pygame/


- [ ] Random

Python Random Module

Python has a built-in module that you can use to make random numbers.

https://www.w3schools.com/python/module_random.asp

- [ ] Time

Python time Module

Python has a module named time to handle time-related tasks. To use functions defined in the module, we need to import the module first. Here's how: import time Here are commonly used time-related functions. The time() function returns the number of seconds passed since epoch.

https://www.programiz.com/python-programming/time

- [ ] Tkinter

Youtube

- [ ] Math

### Python math Module

W3Schools offers free online tutorials, references and exercises in all the major languages of the web. Covering popular subjects like HTML, CSS, JavaScript, Python, SQL, Java, and many,

https://www.w3schools.com/python/module_math.asp

- [ ] JSON

### Python JSON

JSON is a syntax for storing and exchanging data. JSON is text, written with JavaScript object notation. Python has a built-in package called json, which can be used to work with JSON

https://www.w3schools.com/python/python_json.asp

# API

### A collective list of APIs. Build.

We offer over 800 free APIs for developers to develop the next big thing, add yours if you own an API

[...] https://apilist.fun/


### Open Trivia DB

To get started using the Open Trivia DB API, use this URL: For more settings or help using the API, read along below. Alternatively, you can use the helper form to craft your specific query. Session Tokens are unique keys that will help keep track of the questions the API has already retrieved.

https://opentdb.com/api_config.php

https://sunrise-sunset.org/

### Open Notify

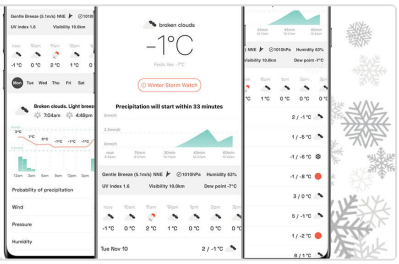
Open Notify is an open source project to provide a simple programming interface for some of NASA's awesome data. I do some of the work to take raw data and turn them into APIs related to space and spacecraft.

http://open-notify.org/

### Current weather and forecast - OpenWeatherMap

Get current weather, hourly forecast, daily forecast for 16 days, and 3-hourly forecast 5 days for your city. Historical weather data for 40 years back for any coordinate. Helpful stats,

https://openweathermap.org/




### kanye.rest

A free REST API for random Kanye West quotes (Kanye as a Service)

https://kanye.rest/?ref=apilist.fun

### Free Stock APIs in JSON & Excel | Alpha Vantage

We are proud to partner with the following global organizations among others: Alpha Vantage provides enterprise-grade financial market data through a set of powerful and developer-friendly APIs. From traditional asset classes (e.g., stocks and ETFs) to forex and cryptocurrencies, from fundamental data to

https://www.alphavantage.co/

### News API - Search News and Blog Articles on the Web

Get API Key arrow_forward News API is a simple, easy-to-use REST API that returns JSON search results for current and historic news articles published by over 80,000 worldwide

https://newsapi.org/


### Pixela | Record and Track your habits or effort. All by API.

Pixela, Record and Track your habits or effort. All by API. | Pixela is the API service. With this service, you can get a GitHub like graph that expresses the degree of your daily various activities

https://pixe.la/

/robots.txt