

# CSV

## Reading CSV files

- `csv.reader(<file-object>, delimiter=':')` : input is CSV file. the parameter `delimiter` is optional

csv\_file.txt

```
Sabrina Green,802-867-5309,System Administrator
Eli Jones,684-3481127,IT specialist
Melody Daniels,846-687-7436,Programmer
Charlie Rivera,698-746-3357,Web Developer
```

```
import csv
f = open("csv_file.txt")
csv_f = csv.reader(f)
for row in csv_f:
    name, phone, role = row
    print("Name: {}, Phone: {}, Role: {}".format(name, phone, role))
f.close()
```

Output:

```
Name: Sabrina Green, Phone: 802-867-5309, Role: System Administrator
Name: Eli Jones, Phone: 684-3481127, Role: IT specialist
Name: Melody Daniels, Phone: 846-687-7436, Role: Programmer
Name: Charlie Rivera, Phone: 698-746-3357, Role: Web Developer
```

## Generating CSV

- `csv.writer()` : input is a list with sublist, for example `[[col1, col2, col3], [col1, col2, col3]]`
- `.writerow()` : ??????
- `.writerows()` : ??????

```
import csv

hosts = [{"workstation.local", "192.168.25.46"}, {"webserver.cloud", "10.2.5.6"}]

with open('hosts.csv', 'w') as hosts_csv:
    writer = csv.writer(hosts_csv)
    writer.writerows(hosts)
```

## With list

Reading a CSV with the list

user\_emails.csv

```
Full Name, Email Address
Blossom Gill, blossom@xyz.edu
Hayes Delgado, nonummy@utnisia.com
Petra Jones, ac@xyz.edu
Oleg Noel, noel@liberomauris.ca
Ahmed Miller, ahmed.miller@nequenonquam.co.uk
Macaulay Douglas, mdouglas@xyz.edu
Aurora Grant, enim.non@xyz.edu
```

- `list(csv.reader(file))` : ? `list()` ??? CSV ??? List ?????????????????? List
- `user_data_list[1:]` : ??????????????????
- `data[1].strip()` : CSV ? 2 ??????????????????

```
user_email_list = []

with open(csv_file_location, 'r') as f:
    user_data_list = list(csv.reader(f))
    user_email_list = [data[1].strip() for data in user_data_list[1:]]
```

## With dictionary

Reading a CSV with the dictionary

- `csv.DictReader()` : input is a CSV file, ???????????

```

# software.csv
# name,version,status,users
# MailTree,5.34,production,324
# CalDoor,1.25.1,beta,22
# Chatty Chicken,0.34,alpha,4

with open('software.csv') as software:
    reader = csv.DictReader(software)
    for row in reader:
        print("{} has {} users".format(row["name"], row["users"]))

# Output:
# MailTree has 324 users
# CalDoor has 22 users
# Chatty Chicken has 4 users

```

## Writing a CSV with the dictionary

- `csv.DictWriter(<file-object>, fieldnames=<column-list>)` : input is a dictionary
- `.writerheader()` : ????
- `.writerows()` : input is a list with multiple dictionaries

```

users = [ {"name": "Sol Mansi", "username": "solm", "department": "IT infrastructure"},
          {"name": "Lio Nelson", "username": "lion", "department": "User Experience Research"},
          {"name": "Charlie Grey", "username": "greyc", "department": "Development"}]
keys = ["name", "username", "department"]

with open('by_department.csv', 'w') as by_department:
    writer = csv.DictWriter(by_department, fieldnames=keys)
    writer.writeheader()
    writer.writerows(users)

# by_department.csv:
# Name,username,department
# Sol Mansi,solm, IT infrastructure
# Lio Nelson,lion,User Experience Researcher
# Charlie Grey,greyc,Development

```