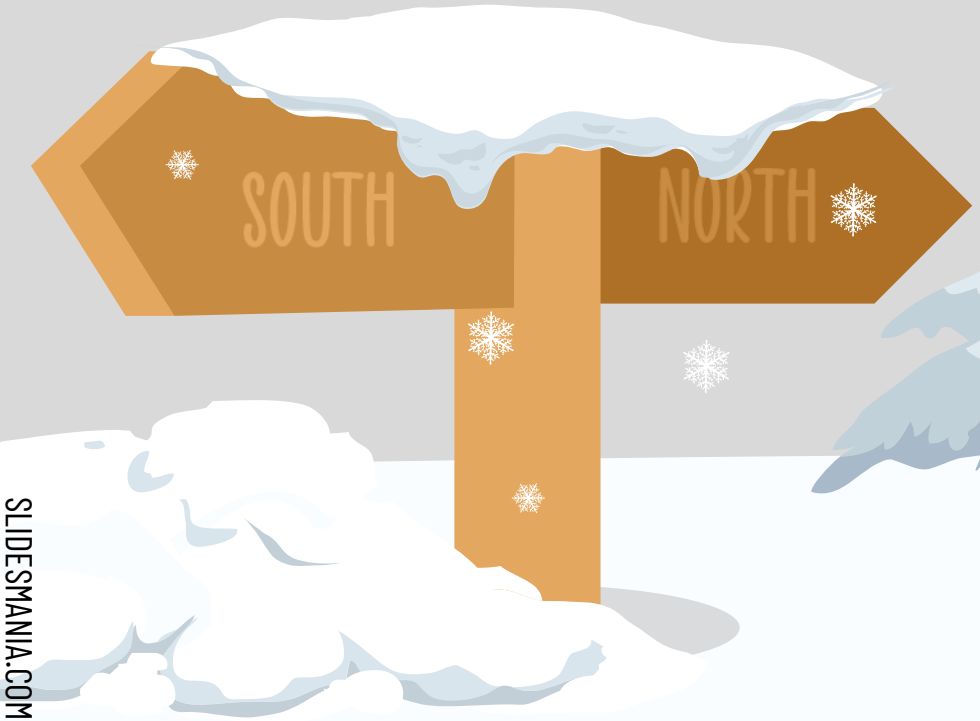
Week 9
Lecture 18

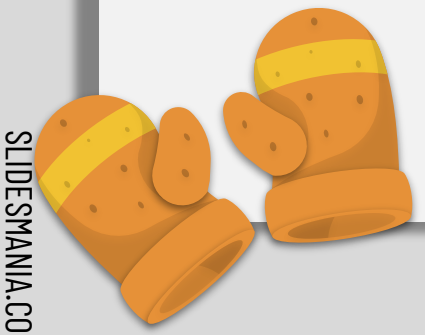


Reading from a file

r

```
f = open(“famousfive.txt”, “r”)
f.close()
```

If you forget to include the character for the mode it is automatically set to ‘r’

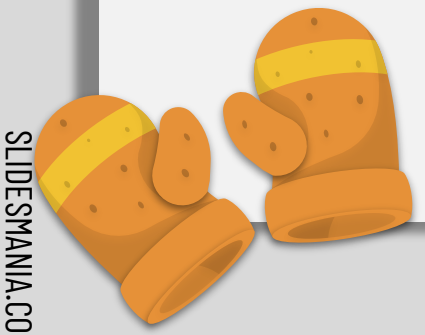


Reading from a file

r

```
with open("famousfive.txt", "r") as connection_to_file:
    filedata = connection_to_file.read()
print(filedata)
```

If you forget to include the character for the mode it is automatically set to 'r'

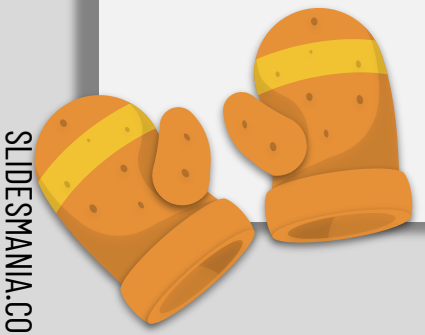


Reading from a file

r

```
with open("famousfive.txt", "r") as connection_to_file:
    for person in connection_to_file:
        person = person.rstrip()
        print(person)
```

Be careful of white spaces.
We need to strip the trailing whitespace in Python.



Reading from a file

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

- There are 5 pieces of information on each line
- Read line by line and process each line in turn

Read each line

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

```
4   with open("cars.txt", "r") as connection:
5       for line in connection:
6           print(line)
```

- line -> “Nissan,Leaf,2019,Electric,32000\n”

Strip white space

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

```
4    with open("cars.txt", "r") as connection:
5        for line in connection:
6            line = line.rstrip()
7            print(line)
```

- line -> “Nissan,Leaf,2019,Electric,32000\n”
- `line = line.rstrip()`
- line -> “Nissan,Leaf,2019,Electric,32000”

Separate information

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

```
4    with open("cars.txt", "r") as connection:
5        for line in connection:
6            line = line.rstrip()
7            line = line.split(',')
8            print(line)
```

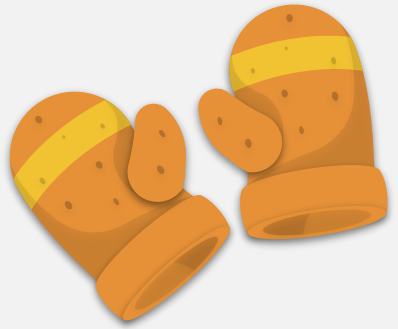
- line -> “Nissan,Leaf,2019,Electric,32000”
- line = line.split(‘,’)
- line -> [“Nissan”,“Leaf”,“2019”,“Electric”,“32000”]

Full program

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

```
with open("cars.txt", "r") as connection:
    for line in connection:
        line = line.rstrip()
        line = line.split(',')
        make = line[0]
        model = line[1]
        year = int(line[2])
        fuel = line[3]
        price = float(line[4])
        print(f"{make} {model} {year} {fuel} {price:,.2f}")
```



Add to this program

- Add code to calculate the price of each car giving a 10% discount
- Add code to determine the age of the car
- Print a sentence for each car based upon the following phrase: `4 year old Nissan Leaf (Electric) for €28,800.00`

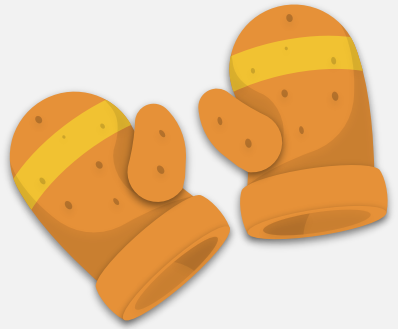
Full program - solution

cars.txt

Nissan,Leaf,2019,Electric,32000
Ford,Ka,2016,Petrol,15000
Audi,A5,2010,Diesel,2200

```
import datetime

with open("cars.txt", "r") as reading_connection:
    for line in reading_connection:
        line = line.rstrip()
        info = line.split(',')
        make = info[0]
        model = info[1]
        year = int(info[2])
        fuel = info[3]
        price = float(info[4])
        reduced_price = price * 0.9
        age = datetime.date.today().year - year
        print(f"{age} year old {make}({fuel}) for €{reduced_price:,.2f}")
```



Add to this program

- Find the most expensive car `in the file`