In [2]:

```
!pip install numpy opencv-python
!pip install dlib
!pip install face_recognition
```

```
Looking in indexes: https://pypi.org/simple, (https://pypi.org/simpl
e,) https://us-python.pkg.dev/colab-wheels/public/simple/ (https://us-
python.pkg.dev/colab-wheels/public/simple/)
Requirement already satisfied: numpy in /usr/local/lib/python3.9/dist-
packages (1.22.4)
Requirement already satisfied: opencv-python in /usr/local/lib/python
3.9/dist-packages (4.7.0.72)
Looking in indexes: https://pypi.org/simple, (https://pypi.org/simpl
e,) https://us-python.pkg.dev/colab-wheels/public/simple/ (https://us-
python.pkg.dev/colab-wheels/public/simple/)
Requirement already satisfied: dlib in /usr/local/lib/python3.9/dist-p
ackages (19.24.1)
Looking in indexes: https://pypi.org/simple, (https://pypi.org/simpl
e,) https://us-python.pkg.dev/colab-wheels/public/simple/ (https://us-
python.pkg.dev/colab-wheels/public/simple/)
Collecting face_recognition
  Downloading face_recognition-1.3.0-py2.py3-none-any.whl (15 kB)
Requirement already satisfied: numpy in /usr/local/lib/python3.9/dist-
packages (from face_recognition) (1.22.4)
Collecting face-recognition-models>=0.3.0
  Downloading face_recognition_models-0.3.0.tar.gz (100.1 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 100.1/100.1 MB 10.2 MB/s e
ta 0:00:00
  Preparing metadata (setup.py) ... done
Requirement already satisfied: Pillow in /usr/local/lib/python3.9/dist
-packages (from face_recognition) (8.4.0)
Requirement already satisfied: Click>=6.0 in /usr/local/lib/python3.9/
dist-packages (from face_recognition) (8.1.3)
Requirement already satisfied: dlib>=19.7 in /usr/local/lib/python3.9/
dist-packages (from face_recognition) (19.24.1)
Building wheels for collected packages: face-recognition-models
  Building wheel for face-recognition-models (setup.py) ... done
  Created wheel for face-recognition-models: filename=face_recognition
_models-0.3.0-py2.py3-none-any.whl size=100566185 sha256=d6cc2e8b59b5b
44bcdace7e27adc2d454ab1060fc7bd1c5ec86f06832c539b3d
  Stored in directory: /root/.cache/pip/wheels/22/a8/60/4a2aeb763d63f5
0190f4c4e07069a22245347eeafdb3a67551
Successfully built face-recognition-models
Installing collected packages: face-recognition-models, face_recogniti
on
Successfully installed face-recognition-models-0.3.0 face_recognition-
1.3.0
```

In [3]:

```
import face_recognition as fr
import cv2

import numpy as np
import os
```

In [15]:

```
path = "./train/"

known_names = []
known_name_encodings = []

images = os.listdir(path)

for _ in images:
    image = fr.load_image_file(path + _)
    image_path = path + _
    encoding = fr.face_encodings(image)[0]

    known_name_encodings.append(encoding)
    known_names.append(os.path.splitext(os.path.basename(image_path))[0].capitalize()

print(known_names)
```

```
['Phoebe', 'Chandler', 'Ross', 'Monica', 'Joey', 'Rachel']
```

In [16]:

```
test_image = "./test/test.jpg"

image = cv2.imread(test_image)
```

In [17]:

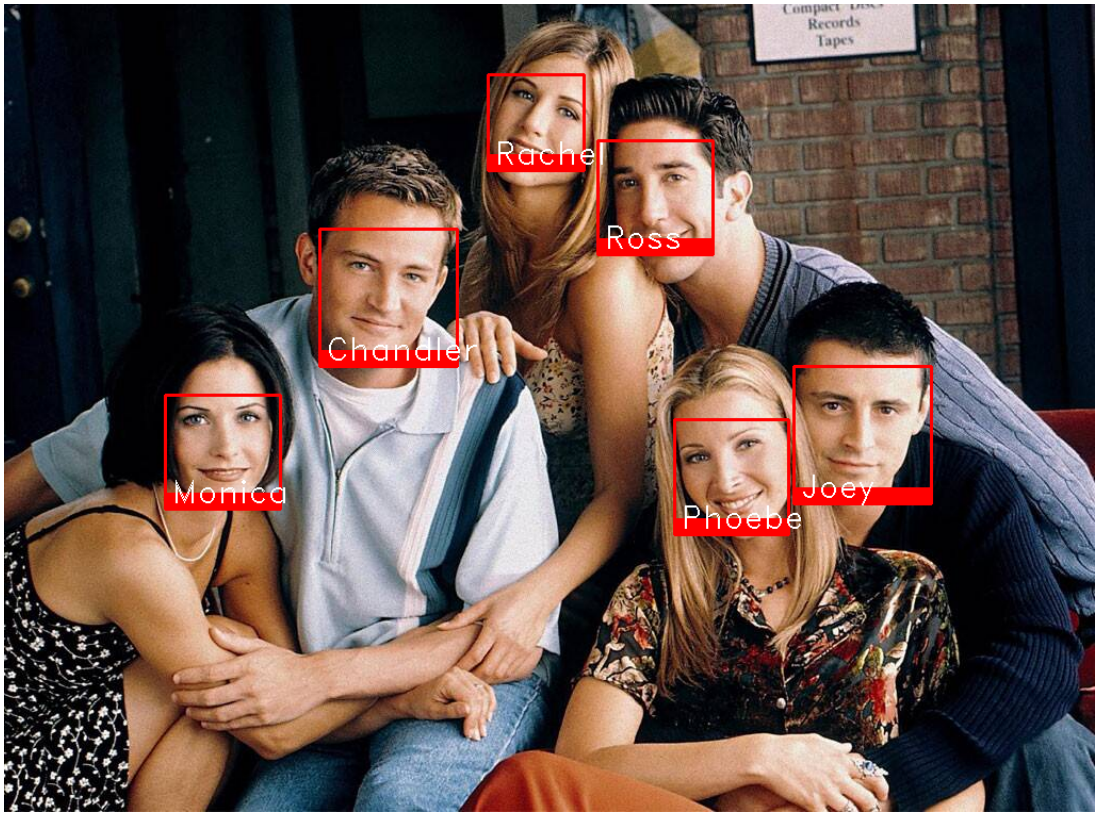
```
face_locations = fr.face_locations(image)

face_encodings = fr.face_encodings(image, face_locations)
```

In [19]:

```
for (top, right, bottom, left), face_encoding in zip(face_locations, face_encodings):
   matches = fr.compare_faces(known_name_encodings, face_encoding)
   name = ""

   face_distances = fr.face_distance(known_name_encodings, face_encoding)
   best_match = np.argmin(face_distances)

   if matches[best_match]:
       name = known_names[best_match]

   cv2.rectangle(image, (left, top), (right, bottom), (0, 0, 255), 2)
   cv2.rectangle(image, (left, bottom - 15), (right, bottom), (0, 0, 255), cv2.FILLED

   font = cv2.FONT_HERSHEY_DUPLEX
   cv2.putText(image, name, (left + 6, bottom - 6), font, 1.0, (255, 255, 255), 1)
```

In [22]:

```
from google.colab.patches import cv2_imshow

cv2_imshow(image)
```



In [25]:

```
cv2.imwrite("./output.jpg", image)
```

Out[25]:

```
True
```

In [26]:

```
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [ ]:

```

```