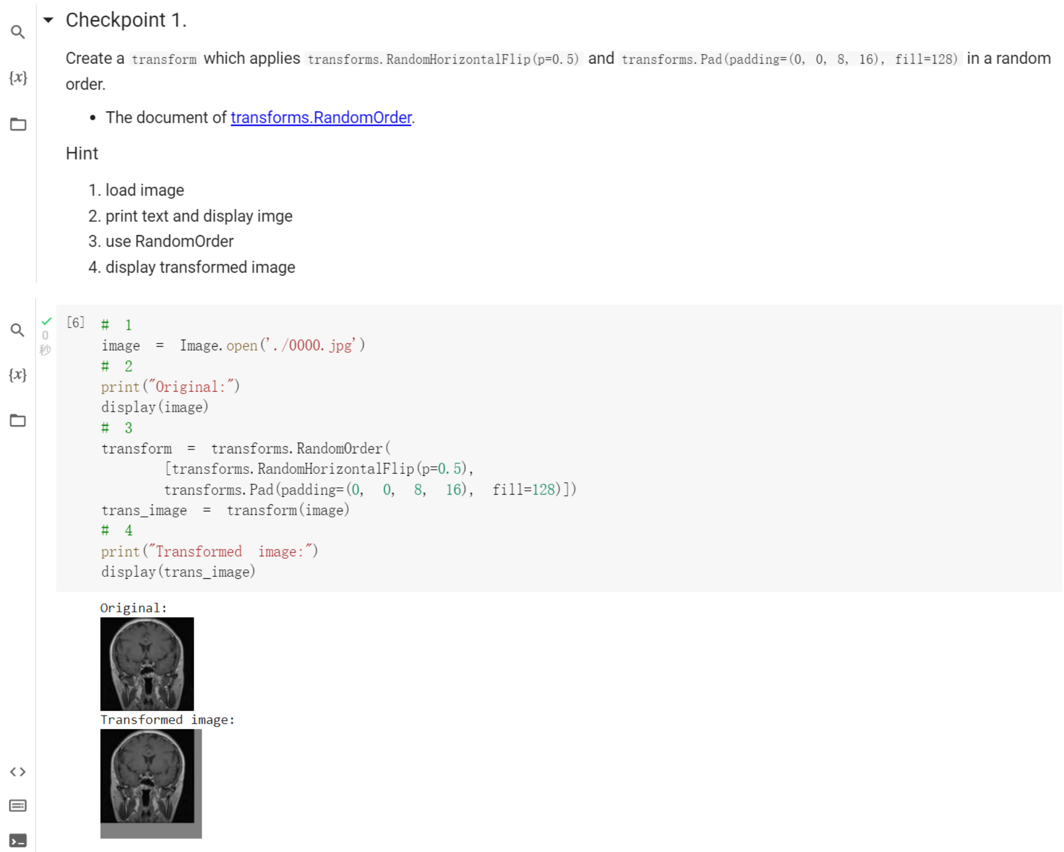
Checkpoint 1



Checkpoint 1.

Create a `transform` which applies `transforms.RandomHorizontalFlip(p=0.5)` and `transforms.Pad(padding=(0, 0, 8, 16), fill=128)` in a random order.

- The document of transforms.RandomOrder.

Hint

1. load image
2. print text and display imge
3. use RandomOrder
4. display transformed image

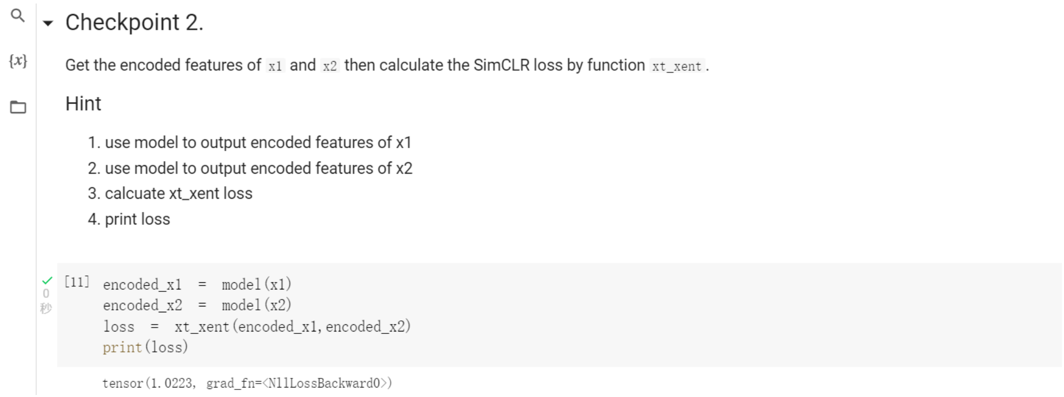
[6]

```
# 1
image = Image.open('./0000.jpg')
# 2
print("Original:")
display(image)
# 3
transform = transforms.RandomOrder(
        [transforms.RandomHorizontalFlip(p=0.5),
        transforms.Pad(padding=(0, 0, 8, 16), fill=128)])
trans_image = transform(image)
# 4
print("Transformed image:")
display(trans_image)
```

```
Original:
```

```
Transformed image:
```

Checkpoint 2



Checkpoint 2.

Get the encoded features of `x1` and `x2` then calculate the SimCLR loss by function `xt_xent`.

Hint

1. use model to output encoded features of x1
2. use model to output encoded features of x2
3. calcuate xt_xent loss
4. print loss

[11]

```
encoded_x1 = model(x1)
encoded_x2 = model(x2)
loss = xt_xent(encoded_x1, encoded_x2)
print(loss)
```

```
tensor(1.0223, grad_fn=<NllLossBackward0>)
```