squeeze的用法主要就是对数据的维度进行压缩或者解压。

先看torch.squeeze() 这个函数主要对数据的维度进行压缩，去掉维数为1的的维度，比如是一行或者一列这种，一个一行三列（1,3）的数去掉第一个维数为一的维度之后就变成（3）行。squeeze(a)就是将a中所有为1的维度删掉。不为1的维度没有影响。a.squeeze(N) 就是去掉a中指定的维数为一的维度。还有一种形式就是b=torch.squeeze(a，N) a中去掉指定的定的维数为一的维度。

再看torch.unsqueeze()这个函数主要是对数据维度进行扩充。给指定位置加上维数为一的维度，比如原本有个三行的数据（3），在0的位置加了一维就变成一行三列（1,3）。

a.squeeze(N) 就是在a中指定位置N加上一个维数为1的维度。还有一种形式就是b=torch.squeeze(a，N) a就是在a中指定位置N加上一个维数为1的维度下面举例：

```
import torch

x = torch.zeros(3,2,4,1,2,1)# dimension of 3*2*4*1*2
print(x.size())          # torch.Size([3, 2, 4, 1, 2, 1])
print(x.shape)

y = torch.squeeze(x)       # Returns a tensor with all the dimensions of input of size 1 removed.
print(y.size())          # torch.Size([3, 2, 4, 2])
print(y.shape)

z = torch.unsqueeze(y,dim=0)# Add a dimension of 1 in the 0th position
print(z.size())          # torch.Size([1, 3, 2, 4, 2])
print(z.shape)

z = torch.unsqueeze(y,dim=1)# Add a dimension of 1 in the 1st position
print(z.size())          # torch.Size([3, 1, 2, 4, 2])
print(z.shape)

z = torch.unsqueeze(y,dim=2)# Add a dimension of 1 in the 2nd position
print(z.size())          # torch.Size([3, 2, 1, 4, 2])
print(z.shape)

y = torch.squeeze(x,dim=0)  # remove the 0th position of 1 (no 1)
print('dim=0', y.size())    # torch.Size([3, 2, 4, 1, 2, 1])
print('dim=0', y.shape)

y = torch.squeeze(x, dim=1)  # remove the 1st position of 1 (no 1)
print('dim=1', y.size())     # torch.Size([3, 2, 4, 1, 2, 1])
print('dim=1', y.shape)

y = torch.squeeze(x, dim=2)  # remove the 2nd position of 1 (no 1)
print('dim=2', y.size())     # torch.Size([3, 2, 4, 1, 2])
```

```
print('dim=2', y.shape)

y = torch.squeeze(x, dim=3)  # remove the 3rd position of 1 (yes)
print('dim=3', y.size())     # torch.Size([3, 2, 4, 2])
print('dim=3', y.shape)

y = torch.squeeze(x, dim=4)  # remove the 4th position of 1 (no 1)
print('dim=4', y.size())     # torch.Size([3, 2, 4, 1, 2, 1])
print('dim=4', y.shape)

y = torch.squeeze(x, dim=5)  # remove the 5th position of 1 (yes)
print('dim=5', y.size())     # torch.Size([3, 2, 4, 1, 2])
print('dim=5', y.shape)

y = torch.squeeze(x, dim=6)  # RuntimeError: Dimension out of range (expected to
be in range of [-6, 5], but got 6)
print('dim=6', y.size())
print('dim=6', y.shape)
```