

```
1 import torch
2 from torch.nn import Module, Linear
3 from torch.nn.functional import relu
4
5
6 class Model(Module):
7     """An implementation of torch.nn.Module.
8
9     Args:
10         Module (Class): generic pytorch model class.
11     """
12
13     def __init__(self, in_shape: torch.Size, num_classes: int):
14         """Initialize the model
15
16         Args:
17             in_shape (torch.Size): the shape of input.
18             num_classes (int, optional): number of output classes.
19         """
20         super(Model, self).__init__()
21
22         # Parameters
23         self.in_features = torch.prod(torch.tensor(in_shape[1:]))
24         self.num_classes = num_classes
25
26         # Define layers
27         self.fc0 = Linear(self.in_features, 32)
28         self.fc1 = Linear(32, 32)
29         self.fc2 = Linear(32, self.num_classes)
30
31     def forward(self, x: torch.Tensor) -> torch.Tensor:
32         """Feed data through the model.
33
34         Args:
35             x (torch.Tensor): data.
36
37         Returns:
38             torch.Tensor: label.
39         """
40         x = relu(self.fc0(x))
41         x = relu(self.fc1(x))
42         x = self.fc2(x)
43         return x
```