Problem 4

(b)

In [ ]:
```
import torch
from torch import nn


class STMConvLayer(nn.Module):
    def __init__(self):
        super(STMConvLayer, self).__init__()
        self.layer_module = nn.ModuleList([self.splitted_layer() for _ in range(32)

    def splitted_layer() -> nn.Sequential:
        layer1 = nn.Conv2d(256, 4, 1)
        layer2 = nn.Conv2d(4, 4, 3, padding=1)
        layer3 = nn.Conv2d(4, 256, 1)

        return nn.Sequential(layer1, nn.ReLU, layer2, nn.ReLU, layer3, nn.ReLU)

    def forward(self, x):
        outs = [each_module(x) for each_module in self.layer_module]
        return sum(outs)    # torch.sum(torch.cat(outs), dim=0)
```