一、函数定义

```
y_sin = torch.sin(2 * torch.pi * x)

y_exp = torch.exp(x)

y_log = torch.log(x + 1)

y_x2 = x ** 2

y_func = y_sin + y_exp - y_log - y_x2
```

二、数据采集

```
x = torch.linspace(0, 1, 100).unsqueeze(1) #(100, 1)
```

然后用上面五个函数即可

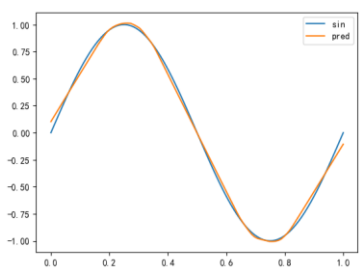
三、模型描述

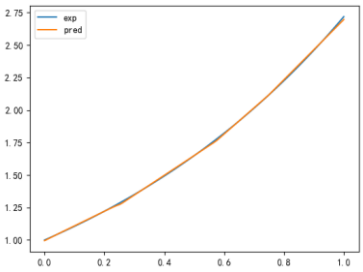
```
class TwoLayersReluNN(nn.Module):
    def __init__(self, in_features, hidden_features, out_features):
        super(TwoLayersReluNN, self).__init__()
        self.fc1=nn.Linear(in_features,hidden_features)
        self.fc2=nn.Linear(hidden_features, out_features)
    def forward(self, x):
        x = F.relu(self.fc1(x))
        x = self.fc2(x)
        return x
model = TwoLayersReluNN(in_features=1, hidden_features=256, out_features=1)
model = TwoLayersReluNN(in_features=1, hidden_features=512, out_features=1)
```

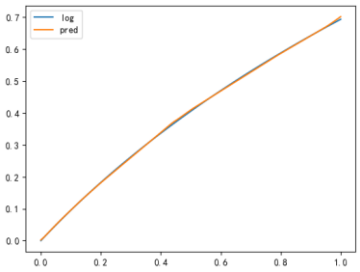
输入层输出层维度为 1

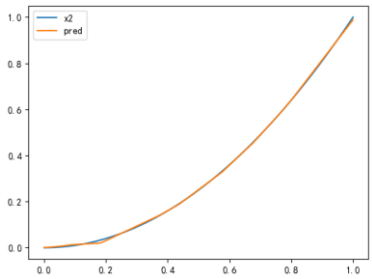
中间隐藏层维度 256 或者 512

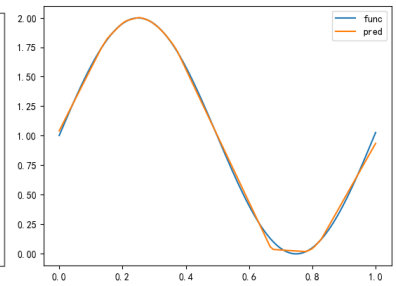
四、拟合效果:


sin
pred


exp
pred


log
pred


x2
pred


func
pred