

With Random Weight Initialization:

1. Code Changes:

- Added a function `_initialize_weights()` to the `model_architecture()` class that applies Xavier weight initialization. Also, `init()` function from `torch.nn` library must be imported:

```
from torch.nn import init
```

```
def _initialize_weights(self, init_type):  
    # Loop through each layer and initialize the weights  
    for m in self.model:  
        if isinstance(m, nn.Linear):  
            init.normal_(m.weight)
```

2. Output:



