

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace Neural_Network {
8     abstract class Layer {
9         public List<Neuron> neurons = new List<Neuron>();
10        public Layer(int capacity) {
11            construct(capacity);
12        }
13
14        protected abstract void construct(int capacity);
15    }
16    class InputLayer : Layer {
17        public InputLayer(int capacity)
18            : base(capacity) {
19        }
20        protected override void construct(int capacity) {
21            neurons.Add(new BiasNeuron());
22            for (int i = 0; i < capacity; ++i) {
23                neurons.Add(new PerceptronInputCell());
24            }
25        }
26    }
27    class HiddenLayer : Layer {
28        public HiddenLayer(int capacity)
29            : base(capacity) {
30        }
31        protected override void construct(int capacity) {
32            neurons.Add(new BiasNeuron());
33            for (int i = 0; i < capacity; ++i) {
34                neurons.Add(new PerceptronHiddenCell());
35            }
36        }
37    }
38    class OutputLayer : Layer {
39        public OutputLayer(int capacity)
40            : base(capacity) {
41        }
42        protected override void construct(int capacity) {
43            for (int i = 0; i < capacity; ++i) {
44                neurons.Add(new PerceptronOutputCell());
45            }
46        }
47    }
48 }
49
```