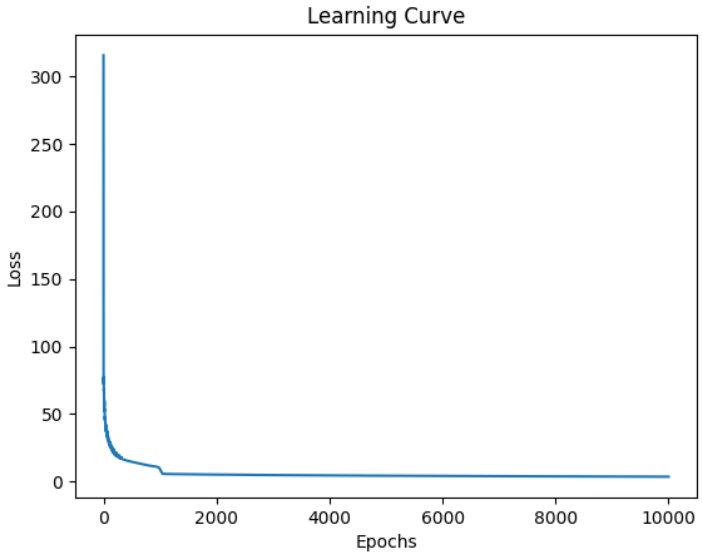
1) Regression

b、

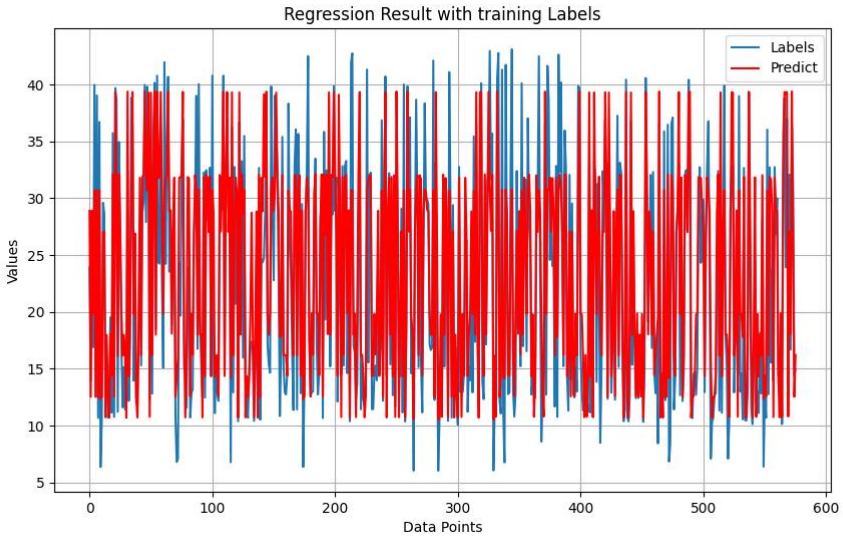
- Network information

network architecture	16-8-1
training RMS error	13.70
test RMS error	12.86

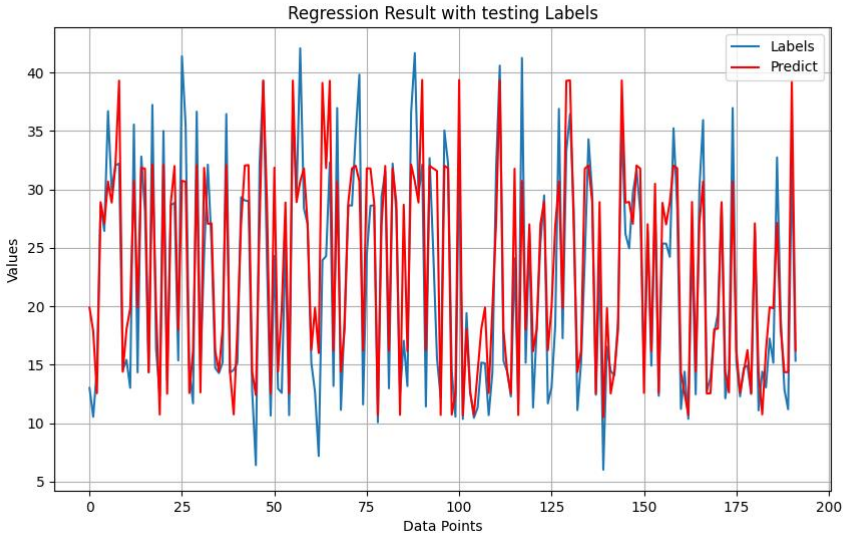
- Learning Curve:



- Training Label

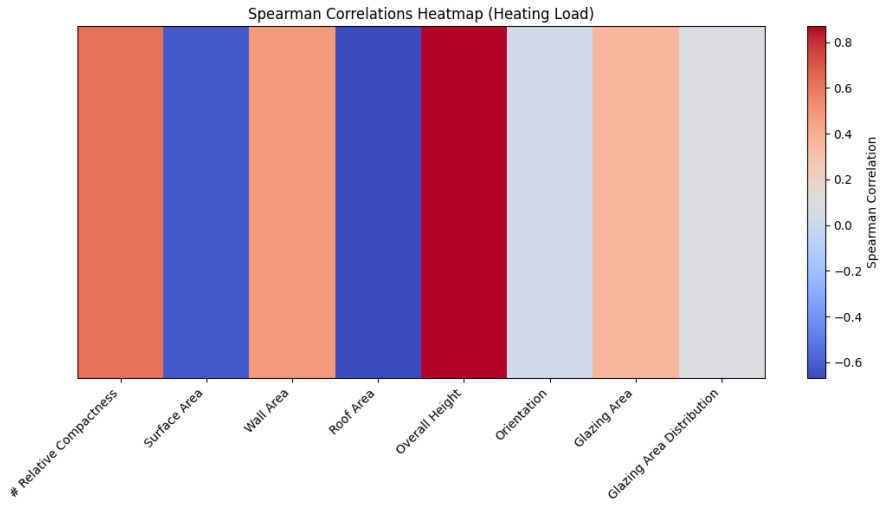


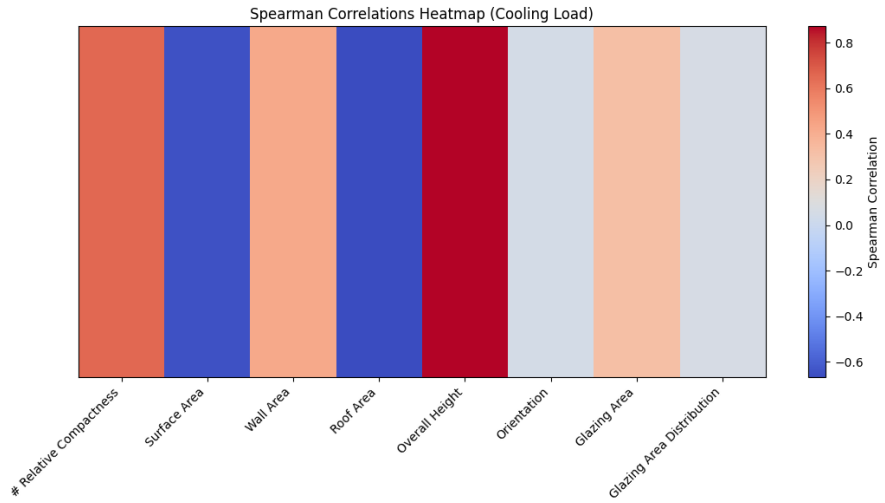
- Testing Label



Using Spearman Correlations to evaluate the influence between different features, the results indicate that 'orientation,' 'Glazing Area Distribution,' 'Surface Area,' and 'Roof Area' have less influence. After training with the remaining four features, the RMS error shows better performance than before.

```
Spearman Correlations (Heating Load):
 # Relative Compactness  Surface Area  Wall Area  Roof Area  Overall Height  Orientation  Glazing Area  Glazing Area Distribution
                0.623443     -0.616496   0.481464  -0.670172        0.870893     0.027221      0.353584                   0.083802
```





network architecture	16-8-1
Selected features	[0,2,4,6]
training RMS error	2.25
test RMS error	2.24

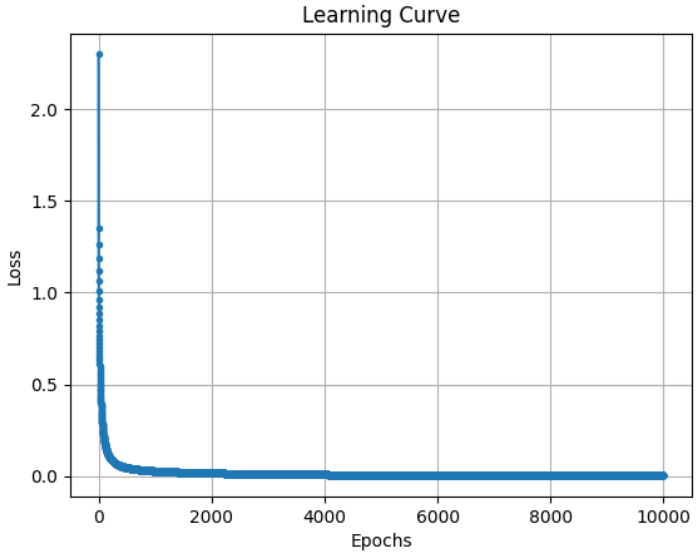
2) Classification

b、

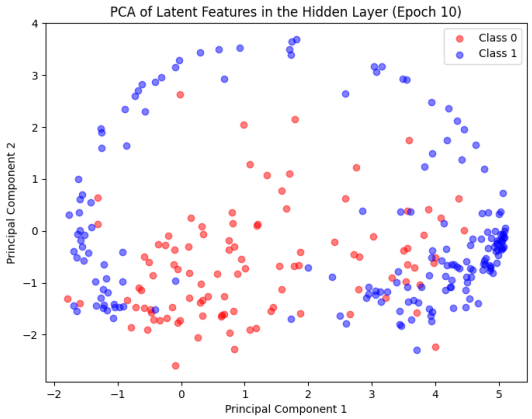
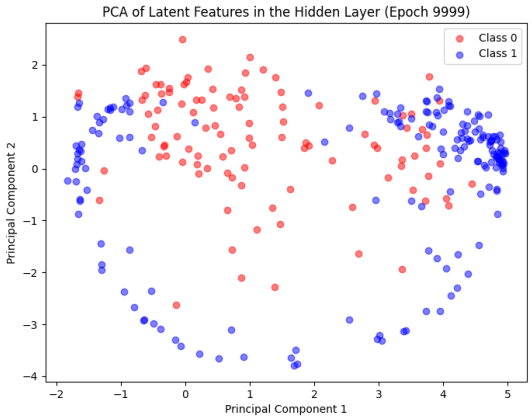
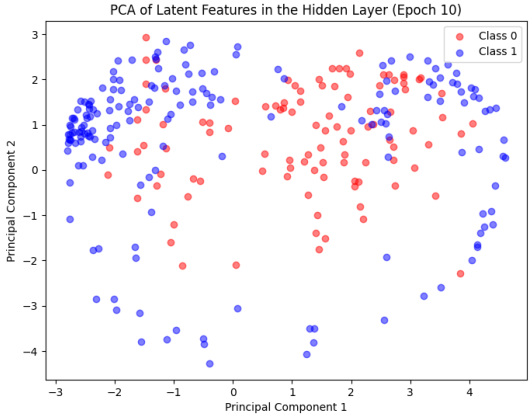
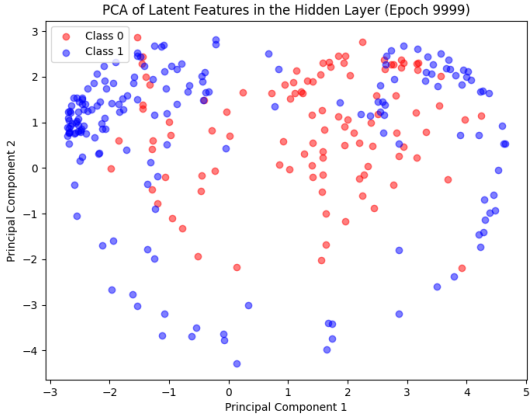
- Network information

network architecture	34-128-2
training RMS error	0
test RMS error	0.14

- Learning Curve:



c、

Hidden node	Epoch 10	Epoch 9999
100		
128		
500