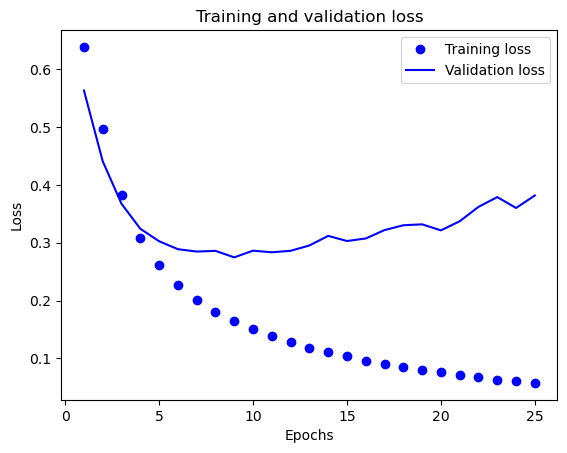
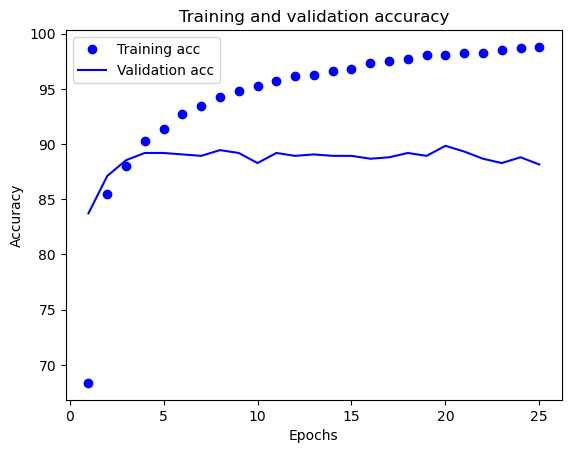
Original Result:

1. Training loss and Validation loss.

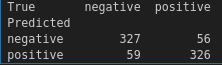
2. Training and validation accuracy.

3. Test loss and accuracy.

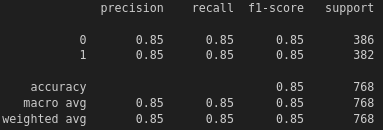
Test loss: 0.469

Test Accuracy: 85.03

4. confusion\_matrix



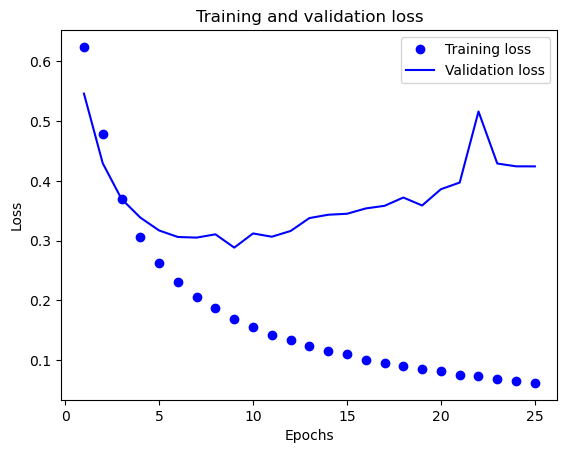
5. classification report



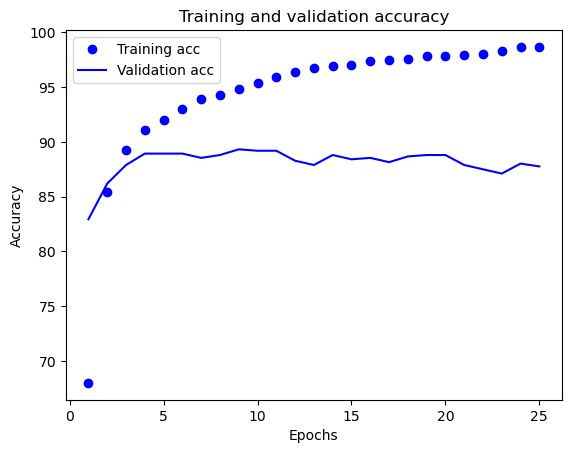
6. prediction result: this is a pretty awesome book -> positive

Task 1-1: update one-hot to term-frequency **only**

1. training loss and validation loss



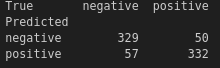
2. Training and validation accuracy.

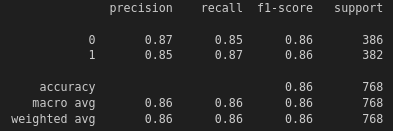


3. Test loss and accuracy.

Test loss: 0.482

Test Accuracy: 86.07

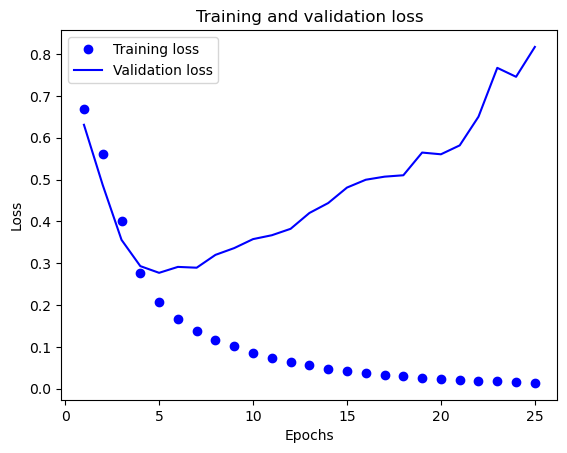
4. confusion\_matrix

5. classification report

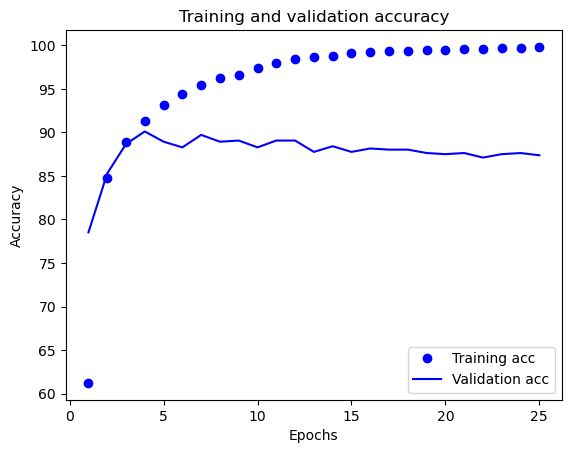
6. prediction result: this is a pretty awesome book -> **positive**

Task 1-2 (1): add 1 additional hidden layer **only(equal dim=20)**

1. training loss and validation loss



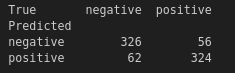
2. Training and validation accuracy.

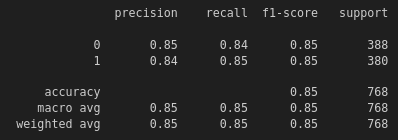


3. Test loss and accuracy.

Test loss: 0.887

Test Accuracy: 84.64

4. confusion\_matrix

5. classification report

6. prediction result: this is a pretty awesome book → **positive**

Task 1-2 (2): add 1 additional hidden layer **only (dim=10)**

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 0.727

Test Accuracy: 85.16

4. confusion\_matrix

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AI-generated content may be incorrect.

5. classification report

A screenshot of a computer

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 1-2 (3): add 1 additional hidden layer **only (dim=40)**

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 1.199

Test Accuracy: 83.59

4. confusion\_matrix

A black background with white text

AI-generated content may be incorrect.

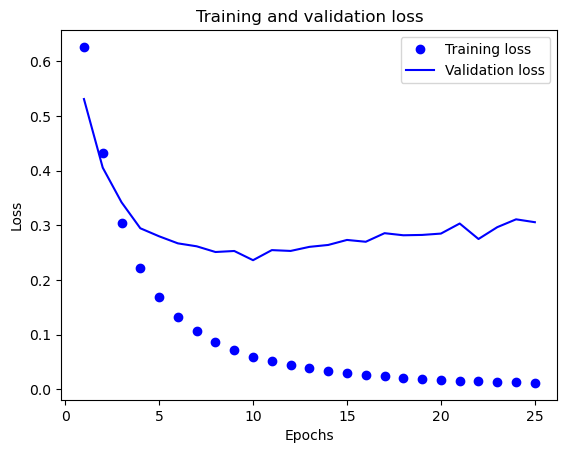
5. classification report

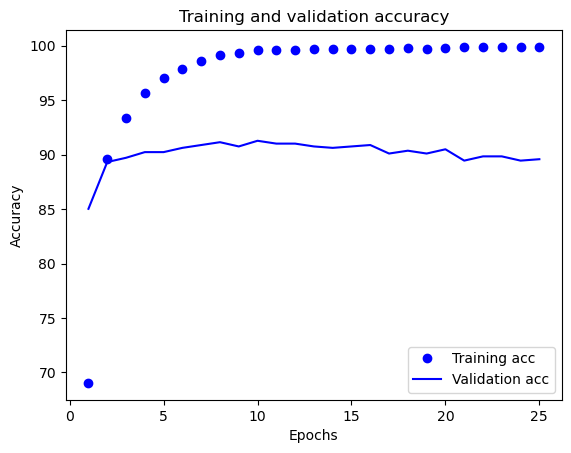
A screenshot of a computer

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 1-3: change the frequency cutoff to 0 **only**

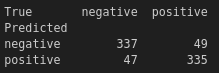
1. training loss and validation loss

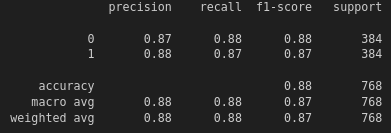
2. Training and validation accuracy.

3. Test loss and accuracy.

Test loss: 0.314

Test Accuracy: 87.50

4. confusion\_matrix

5. classification report

6. prediction result: this is a pretty awesome book →**positive**

Task 1-4 (1): find **best combination** among of above approaches.

(one-hot to term-frequency. && add 1 additional hidden layer **dim=10**)

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 0.754

Test Accuracy: 84.24

4. confusion\_matrix

A black background with white text

AI-generated content may be incorrect.

5. classification report

A screenshot of a computer

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 1-4 (2): find **best combination** among of above approaches.

(one-hot to term-frequency. && change the frequency cutoff to 0)

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 0.338

Test Accuracy: 87.89

4. confusion\_matrix

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AI-generated content may be incorrect.

5. classification report

A screenshot of a computer screen

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 1-4 (3): find **best combination** among of above approaches.

(add 1 additional hidden layer **dim=10** && change the frequency cutoff to 0)

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 0.417

Test Accuracy: 88.54

4. confusion\_matrix

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AI-generated content may be incorrect.

5. classification report

A screenshot of a computer screen

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 1-4 (3): find **best combination** among of above approaches.

(one-hot to term-frequency. && add 1 additional hidden layer **dim=10** && change the frequency cutoff to 0)

1. training loss and validation loss

A graph with blue dots

AI-generated content may be incorrect.

2. Training and validation accuracy.

A graph of a training and validation accuracy

AI-generated content may be incorrect.

3. Test loss and accuracy.

Test loss: 0.462

Test Accuracy: 87.63

4. confusion\_matrix

A black background with white text

AI-generated content may be incorrect.

5. classification report

A screenshot of a black screen

AI-generated content may be incorrect.

6. prediction result: this is a pretty awesome book → **positive**

Task 2-1:

1. training loss and validation loss

2. Training and validation accuracy.

3. Test loss and accuracy.

Test loss:

Test Accuracy:

4. confusion\_matrix

5. classification report

6. prediction result: this is a pretty awesome book →

Task 2-2:

1. training loss and validation loss

2. Training and validation accuracy.

3. Test loss and accuracy.

Test loss:

Test Accuracy:

4. confusion\_matrix

5. classification report

6. prediction result: this is a pretty awesome book →

Task 2-3:

1. training loss and validation loss

2. Training and validation accuracy.

3. Test loss and accuracy.

Test loss:

Test Accuracy:

4. confusion\_matrix

5. classification report

6. prediction result: this is a pretty awesome book →