Report on the completion of the second task.

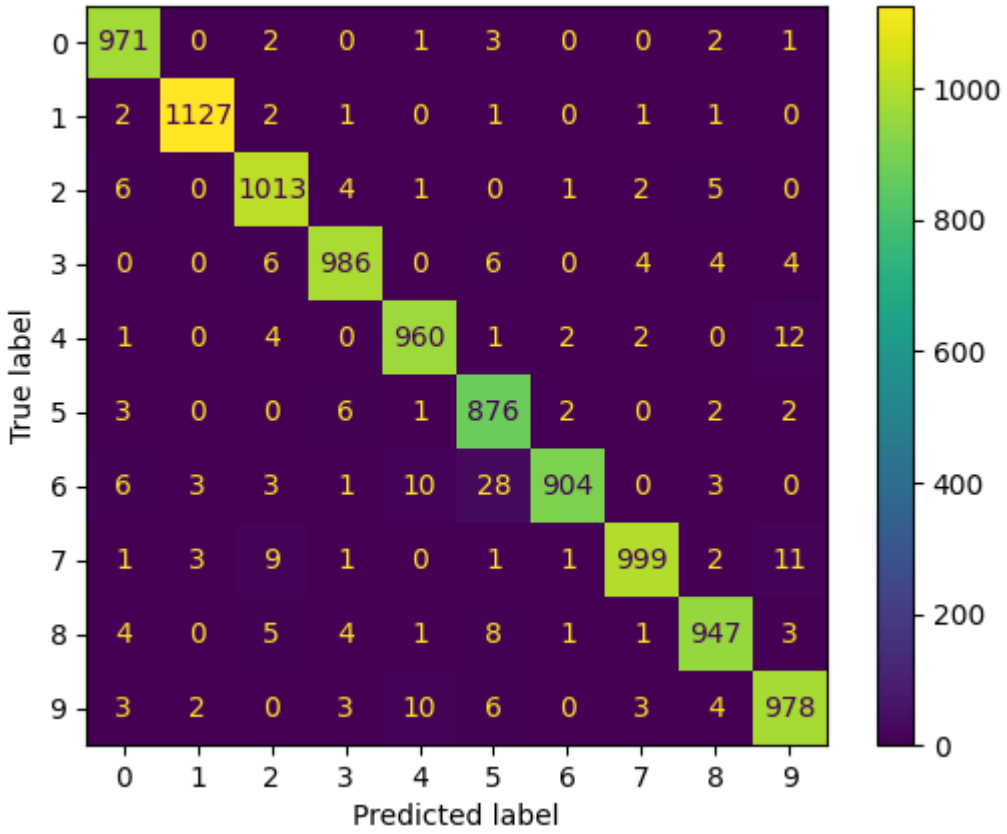
1. **The purpose of the task.**
   The main goal of this task is to investigate some metrics of NN performance and try to understand what numbers MNIST model can misclassify using the confusion matrix.
2. **Printing the model metrics (for each class and general).**

```
The total accuracy is: 0.9761
The accuracies for each class:
[0.99081633 0.99295154 0.98158915 0.97623762 0.97759674 0.98206278
 0.94363257 0.97178988 0.97227926 0.96927651]

The total precision is: 0.9757962341369539
The precisions for each class are:
[0.97392177 0.99295154 0.97030651 0.98011928 0.97560976 0.94193548
 0.99231614 0.98715415 0.97628866 0.96735905]

The total recall is: 0.9758232384339165
The recalls for each class are:
[0.99081633 0.99295154 0.98158915 0.97623762 0.97759674 0.98206278
 0.94363257 0.97178988 0.97227926 0.96927651]

The total f1_score is: 0.9756891351491621
The f1_scores for each class are:
[0.98229641 0.99295154 0.97591522 0.9781746  0.97660224 0.96158068
 0.96736223 0.97941176 0.97427984 0.96831683]
```

3. **Printing the classification report.**

	precision	recall	f1-score	support
0	0.97	0.99	0.98	980
1	0.99	0.99	0.99	1135
2	0.97	0.98	0.98	1032
3	0.98	0.98	0.98	1010
4	0.98	0.98	0.98	982
5	0.94	0.98	0.96	892
6	0.99	0.94	0.97	958
7	0.99	0.97	0.98	1028
8	0.98	0.97	0.97	974
9	0.97	0.97	0.97	1009
accuracy			0.98	10000
macro avg	0.98	0.98	0.98	10000
weighted avg	0.98	0.98	0.98	10000

4. **Printing the confusion matrix.**



5. **Conclusion.**

- From the confusion matrix confusion, we can clearly see that the model can make some mistakes with the numbers that look pretty identical, like 4, 6, 5, 7 and 9.