Homework 8 is due Sunday, March 17 at 5 p.m.
Please download `HW8.ipynb` (with data `mnist.npz`) and fill in the blanks.
Late submission will not be accepted.

Problem 1 (45 pts):
Fill in the blank under Problem 1 in `HW8.ipynb`.
Implement a function `get_accuracy` to get the accuracy of a support vector classifier on `test_images`. The function takes two arguments as input: integer `n` and string `select`.

1. If `select == "firstn"`, then the function returns the accuracy (on `test_images`) with the first `n` images in `train_images` as training data.

2. If `select == "lastn"`, then the function returns the accuracy (on `test_images`) with the last `n` images in `train_images` as training data.
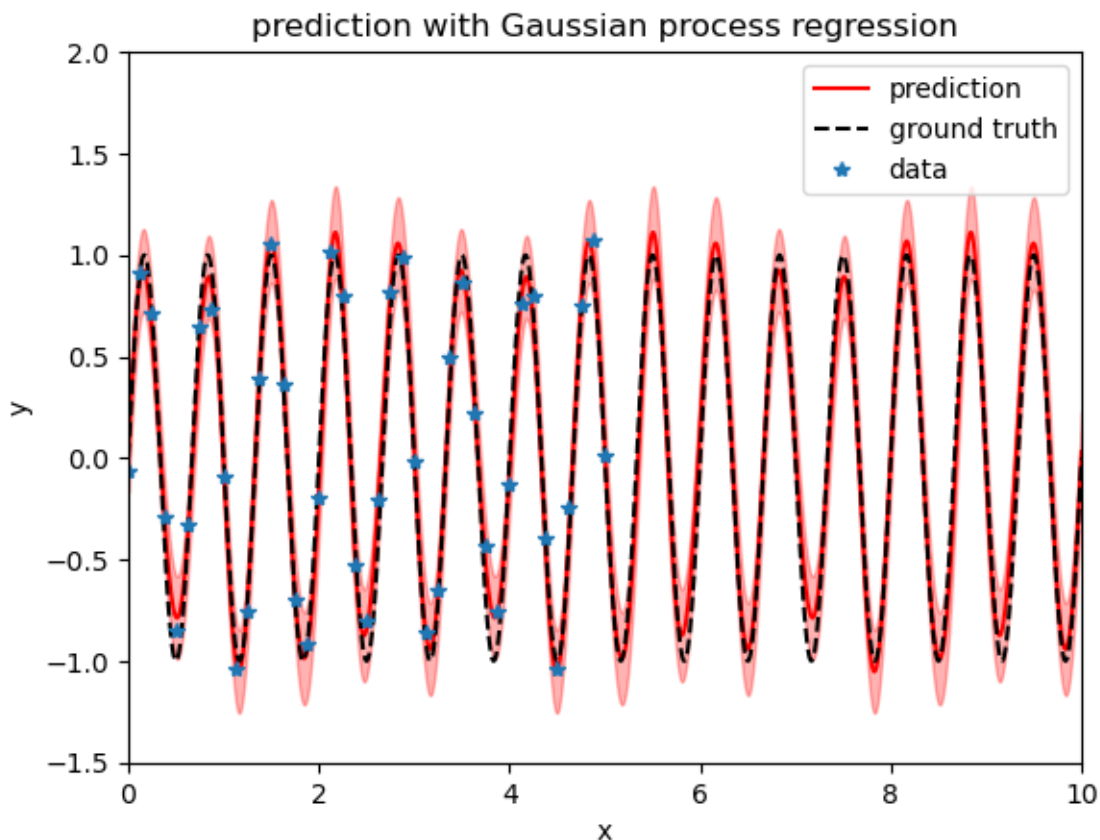
The test code and expected results are provided in `HW8.ipynb`.
Problem 2 (45 pts):
Fill in the blank under Problem 2 in `HW8.ipynb`.
In this problem, you need to conduct Gaussian process regression with the provided kernel and data. In the end, you need to plot the following figure. Hints:

1. The shaded area represents two standard deviations.

Instructions:

- Your code should not only work for the test cases I provided, but also for other cases.

- All code must be written originally by yourself. You are not allowed to (even partially) copy code from anyone else, including code provided by TAs or instructor. Incident of cheating or plagiarism will be reported to the Dean's office and results in a zero grade in this assignment.

- (5pt) Write programs to solve the above questions. Name your files as as instructed. You must name the files EXACTLY as instructed, otherwise 5 points will be deducted. Submit your files to Gradescope.

- (5pt) Add declaration in the beginning of each file to show the ownership. Please put your name, UID, and discussion section in a comment at the top of your source files (before the include statements). A sample description may look like:

```
'''
    PIC 16A Homework 1
    Author: John Doe
    UID: 111111111
    Discussion Section: 3A
    Date: 01/01/2023
'''
```

- (90pt) Code can be run with Python 3.9.15 and solves the question. To receive full credits, the output must look EXACTLY the same as instructed above, including words, spaces, symbols, etc. Your submissions will be graded with Python 3.9.15.

- Submit your files together to Gradescope. Do not submit the files separately! The best way might be "selecting all the files, drag and drop in the submission page". You may submit multiple times, but only the last submission will be graded. Ask you TA or me if you have questions for submissions.