



Math Lab #1: Midterm and Final Exam Visualization

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Overview

- **Prerequisite**
 - Anacodna (Individual Edition)
- **Practice: Midterm and Final Exam Visualization**
 - The given data
 - Expected results
 - Practice with the skeleton code
 - Step #1) Derive midterm, final, and total scores
 - Step #2) Plot midterm/final scores as points
 - Step #3) Plot total scores as a histogram
- **Assignment**
 - Mission: Complete the given skeleton code

Practice: Midterm and Final Exam Visualization

- The given data (file: data/class_score_en.csv)

midterm (max 125), final (max 100)

113, 86

104, 83

110, 78

101, 79

101, 77

103, 76

71, 94

102, 71

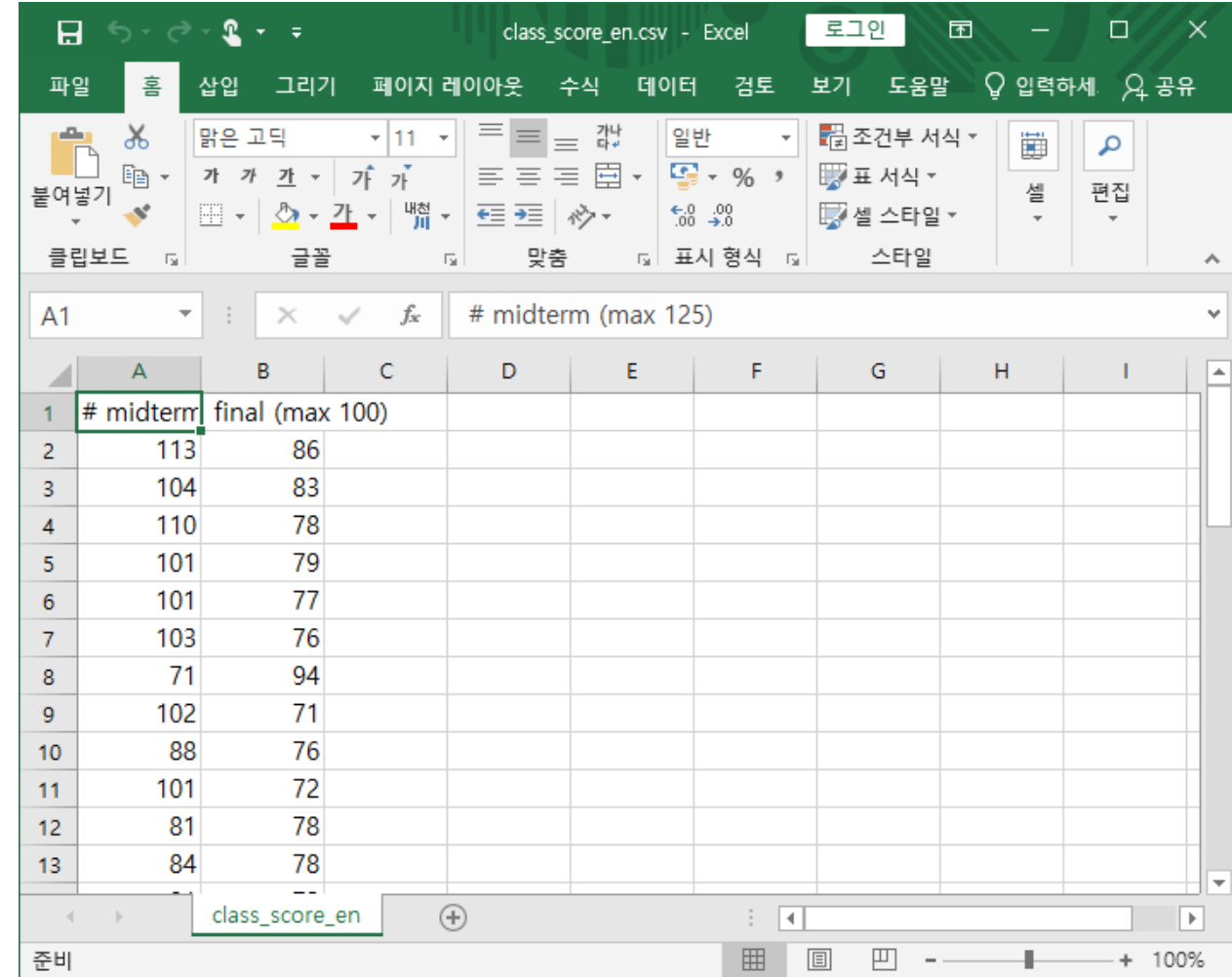
88, 76

101, 72

81, 78

84, 78

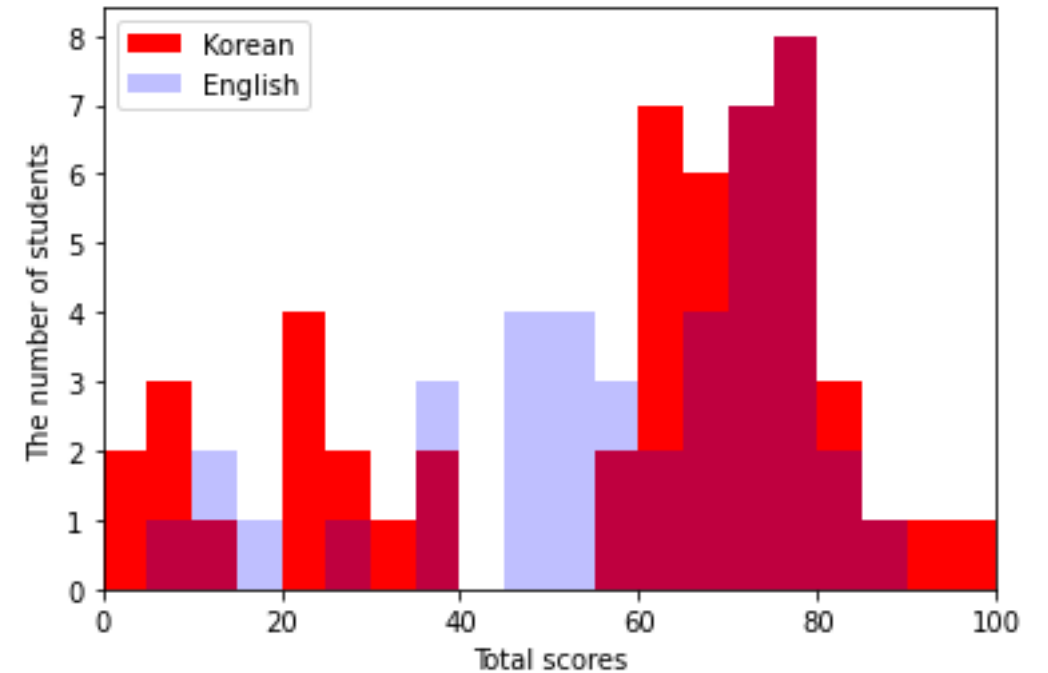
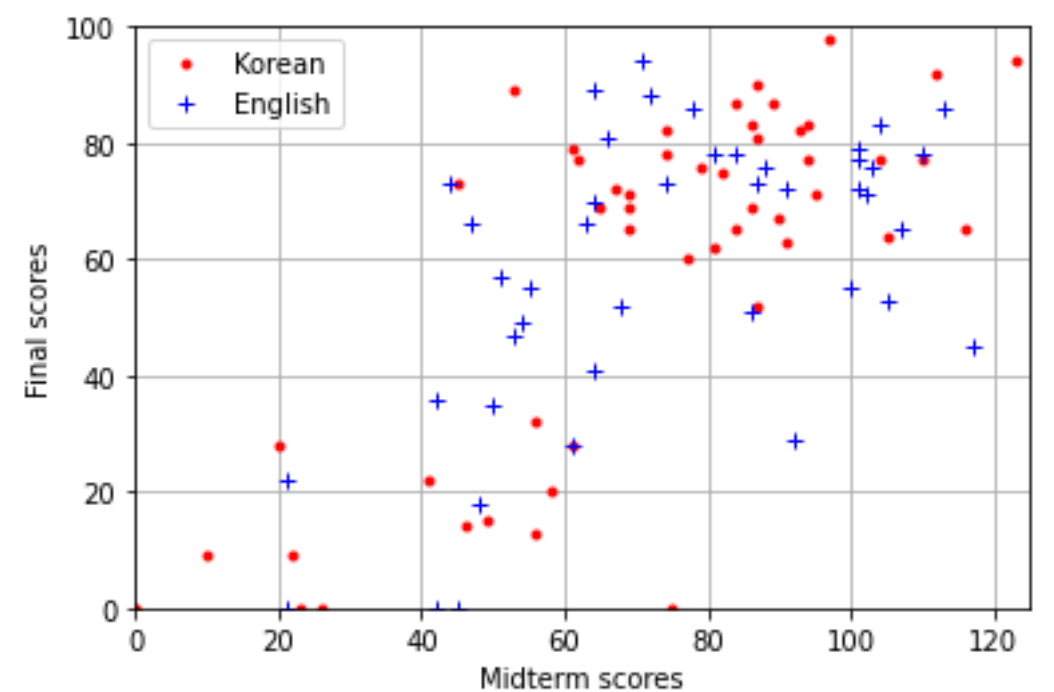
...



	# midterm (max 125)	final (max 100)
1	113	86
2	104	83
3	110	78
4	101	79
5	101	77
6	103	76
7	71	94
8	102	71
9	88	76
10	101	72
11	81	78
12	84	78
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Practice: Midterm and Final Exam Visualization

- Expected results
 - Scatter plot
 - Data: Midterm scores (X) and final scores (Y)
 - The aspect ratio: 1:1
 - Histogram
 - Data: Total scores
 - The range of histogram: [0, 100]
 - The width of bins: 5



Practice: Midterm and Final Exam Visualization

- The given skeleton code (class_score_plot_skeleton.py)
 - Step #1) Derive midterm, final, and total scores
 - Step #2) Plot midterm/final scores as points
 - Step #3) Plot total scores as a histogram

```
import glob, csv
import matplotlib.pyplot as plt

def read_data(filename):
    ...
if __name__ == '__main__':
    # Load score data
    class_kr = read_data('data/class_score_kr.csv')
    class_en = read_data('data/class_score_en.csv')

    # Derive midterm, final, and total scores
    midtm_kr = [0]
    final_kr = [0]
    total_kr = [0]
    midtm_en = [0]
    final_en = [0]
    total_en = [0]

    # Plot midterm/final scores as points

    # Plot total scores as a histogram
```

Assignment

- Mission
 - Complete the given skeleton code (`class_score_plot_skeleton.py`)
 - Submit your code (`class_score_plot.py`) and its two figures (`class_score_scatter.png`, `class_score_hist.png`)
- Condition
 - Please follow the above filename convention.
 - You **can** start from scratch (without using the given skeleton code).
 - However, you **should** use the same data shown in the slide 5.
 - You **can** freely change the given skeleton code if necessary.
- Submission
 - Deadline: **October 20, 2021 23:59** (**firm deadline**; no extension)
 - Where: e-Class > Assignments
 - Score: Max 10 points