Due date:
Friday, 4/16, due 6pm, submit on-line through Canvas.

Instructions:
Students are encouraged to work together and discuss the homework problems, however each student must write up the solutions in their own words. Homework solutions should be well-explained.
The format of HW is not restricted, but the PDF file is the preferred one.

Example 1. Let the linear operator $L : \mathcal{P}^{(1)} \to \mathcal{P}^{(1)}$ satisfies

$$L[p](x) = p'(x).$$

Find the matrix representation of L in the basis $\{1 + x, 1 - x\}$ for $\mathcal{P}^{(1)}$.

Problems in [1]:
Pages 369–370, problems 7.2.24(a), 7.2.25(b), 7.2.26(c), 7.2.28,
(*In problems 7.2.24 and 7.2.25, the bases are for both domain and codomain; that is, we consider that domain and codomain have the same bases in these two problems.*)
Pages 414–415, problems 8.2.1(f), 8.2.4, 8.2.10(a,b)
Pages 417–420, problems 8.2.19, 8.2.21, 8.2.24, 8.2.38(a)

References

[1] Peter Olver and Chehrzad Shakiban, Applied Linear Algebra, 2nd Edition