Week 9 - 10 | Foundational Knowledge Learning

2025-10-01 – 2025-10-13

1: Weekly Highlights

- Course study:
  MITOCW 18.02 Multivariable Calculus lecture 14 - 24 , problem set 5 - 8
  MITOCW 8.02 Electricity and Magnetism lecture 11 - 23 , problem set 5 - 6
- Assessments:
  MITOCW 18.02 exam 2 with an accuracy of 82%
  MITOCW 8.02 exam 1 with an accuracy of 90%
- Continue to advance in learning Python and C++

2: Insights & Takeaways

- Exciting point:
  On October 12, 2025, I encountered the complete form of Maxwell's Equations for the first time — a truly memorable moment that connected my mathematical and physical understanding.
- Gains:
  By continuing my study of Multivariable Calculus and Electricity and Magnetism, I gained a deeper insight into the intrinsic relationship between electric and magnetic fields and was introduced to the mathematical framework of field theory.
- Reflection:
  After initially grasping the knowledge of mathematical physics, one can gradually proceed to further in-depth study.

3: Challenges & Open Questions

- Studying electromagnetism can appropriately expand the differential expressions of Maxwell's equations, which is helpful for subsequent learning.

4: Next 2 Weeks Plan

- Continue studying of MIT 8.02 and 18.02
- Begin the study of Numerical Methods as the next mathematical focus