

Homework 10

(Due on April 21, 2020)

1. **(12 points)** Solve 5.24 of the text (6th edition)
2. **(12 points)** Solve 5.25 of the text (6th edition)
3. **(13 points)** Solve 5.29 of the text (6th edition)
4. **(12 points)** Solve 6.13 of the text (6th edition)
5. **(12 points)** Solve 6.14 of the text (6th edition)
6. **(12 points)** Solve 6.15 of the text (6th edition)
7. **(12 points)** Solve 6.17 of the text (6th edition)
8. **(12 points)** Assume that you have a RAID4 system with six disks. Draw a simple diagram showing the layout of blocks across disks for this RAID system.
9. **(12 points)** When a single disk fails, the RAID4 system will perform reconstruction. What is the layout of blocks across disks for this RAID system?
10. **(12 points)** Solve D.5 of the text (6th edition)
11. **(12 points)** Solve D.14 of the text (6th edition)
12. **(12 points)** Solve D.19 of the text (6th edition)
13. **(13 points)** Solve D.26 of the text (6th edition)
14. **(12 points)** Discuss how the hardware based (RAID) fault tolerance approaches work? Compare them with features supported in HDFS. What other approaches for fault tolerance are out there (think erasure coding)?

Challenging Homework

C-1. Please provide your thought for problem 6.18.c of the text.