

Student Name: \_\_\_\_\_

UTor ID: \_\_\_\_\_

## Quiz 1. RAID-6 puzzle

Please show your thought process – in case that your recovered data is not correct, you may earn at least some partial credits.

You have the following configuration for RAID-6:

D-1	D-2	D-3	D-4	R-1	R-2	R-3
1	1	1	0	1	0	0
1	1	0	1	0	1	0
1	0	1	1	0	0	1

Each disk stores only 6 bits of data (for simplicity).

Now, suppose that data disk D-1 and redundant disk R-1 failed simultaneously. Recover 6 bits in D-1 and R-1. Given the following bit-to-character encoding, what word was stored on disk D-1? \_\_\_\_\_

Each 2 bits encode the following characters:

2 bits	char
00	o
01	p
10	q
11	r

Data disks with 6 bits per disk:

D-1) \_\_\_\_\_  
D-2) **101010**  
D-3) **001111**  
D-4) **010000**

Redundant disks:

R-1) \_\_\_\_\_  
R-2) **101011**  
R-3) **001110**