Problem 2:

total = (6, 17, 9, 10, 7)

allocated = (4, 17, 9, 7, 4)

available = total - allocated = (2, 0, 0, 3, 3)

available is enough for first process only.

So P0;

P0 returns everything and we get

(2, 0, 0, 3, 3) + (0, 5, 3, 1, 1) = (2, 5, 3, 4, 4)

Available is enough for last process only. So for p4

P4 returns everything and we do the same operation again and get

(3, 7, 6, 6, 5)

Then it’s enough for P3.

P3 returns everything and we get (6, 8, 7, 7, 5)

Then it’s enough for P2 and with skipping some steps we get (6, 15, 8, 9, 6).

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Finally available is enough for last process P1 and we get (6, 17, 9, 10, 7)

**Therefore, system is in safe state.**