

HDele6

FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
FDele4 FDele5 FDele6 FDele7 FDele8 FDele9 FDele10 HDCDC1 HDCDC2 HDCDC3 HDCDC4 HDCDC5 HDele2 HDele3
HDele4 HDele5 HDele6

FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
FDele4 FDele5 FDele6 FDele7 FDele8 FDele9 FDele10 HDCDC1 HDCDC2 HDCDC3 HDCDC4 HDCDC5 HDele3 HDele4
HDele5 HDele6

FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
FDele4 FDele5 FDele6 FDele7 FDele8 FDele9 FDele10 HDCDC1 HDCDC2 HDCDC3 HDCDC4 HDCDC5 HDele4 HDele5
HDele6

FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
FDele4 FDele5 FDele6 FDele7 FDele8 FDele9 FDele10 HDCDC1 HDCDC2 HDCDC3 HDCDC4 HDCDC5 HDele5 HDele6

Output:

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FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
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HDele5 HDele6
FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele1 FDele2 FDele3
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HDele6
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HDele5 HDele6
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HDele3 HDele4 HDele5 HDele6
FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDCDC10 FDele2 FDele3 FDele4 FDele5
FDele6 FDele7 FDele8 FDele9 FDele10 HDCDC2 HDCDC3 HDCDC4 HDCDC5 HDele2 HDele3 HDele4 HDele5 HDele6
FDCDC1 FDCDC2 FDCDC3 FDCDC4 FDCDC5 FDCDC6 FDCDC7 FDCDC8 FDCDC9 FDele1 FDele2 FDele3 FDele4 FDele5
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Output:

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Crash Tests

Crash 1: If the number of courses that the professors can take is less than number of CDS, the matrix can't be formed and the code crashes.

Example:

Input: `assign_profs(1,1,1,1)`

`FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2`

`FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC2 FDCDC1 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC3 FDCDC2 FDCDC1 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

Error:

`if M[i, j] == 0 and not covered_cols[j]: # If value is a zero that is not covered, add to count`

`~~~~~AAA`

`IndexError: index 6 is out of bounds for axis 0 with size 6`

Crash 2: If the number of professors is greater than the number of courses available, the code assigns some courses to more than two professors.

Example:

Input: `assign_profs(5,4,5,1)`

`FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2`

`FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1`

`FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2`

`FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3`

`HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4`

`HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1`

`FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2`

`FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1`

`FDele3 FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2`

`FDele4 HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3`

`HDele1 HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4`

`HDele2 FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1`

`FDCDC1 FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2`

`FDCDC2 FDCDC3 FDCDC4 HDCDC1 HDCDC2 FDele1 FDele2 FDele3 FDele4 HDele1 HDele2 FDCDC1`

Output:

`{'x1': {'Prof 1': ['FDCDC1'], 'Prof 2': ['HDCDC2'], 'Prof 3': ['FDele1'], 'Prof 4': ['FDele1'], 'Prof 5': ['FDele1']},`

`'x2': {'Prof 6': ['FDele1', 'HDCDC2'], 'Prof 7': ['FDele2', 'FDele2'], 'Prof 8': ['FDele2', 'FDele2'], 'Prof 9':`

`['FDele3', 'FDele3']}, 'x3': {'Prof 10': ['FDele4', 'FDele4', 'HDele1'], 'Prof 11': ['HDele1', 'HDele2', 'HDele2'],`

`'Prof 12': ['FDCDC1', 'FDCDC2', 'FDCDC2'], 'Prof 13': ['FDCDC3', 'FDCDC3', 'FDCDC4'], 'Prof 14': ['FDCDC4',`

`'HDCDC1', 'HDCDC1']}]}`

Here, FDele1 gets assigned to four different professors.