

"University Exams"

0	1	2		n- 1
30	99	80		57

All marks are  $\geq 0$

If you take i you cannot take i+1

#num			
0	{}	0	
1	{80}	80	{0}
2	{50, 70}	70	{1}
2	{80, 50}	80	{0}
3	{50, 70, 100}	150	{0, 2}
3	{20, 100, 70}	100	{1}
3	{2, 80, 91}	93	{0, 2}
4	{1, 2, 3, 4}	6	{1, 3}

MUST WRITE

- 1. Brute Force
- 2. Optimal alg

Must fill work

```

                                0 1 2 3
Input: Python list a;  ex [1,2,3,4]
                        e:expected ans:6
def _test1(self,a:'list', e:'int')->'void':
    ans = []      ans = {1,3}
    maxv = [0]    maxv = [6]
    work = [0]    work =[25] HOW MUCH WORK?
    Alg(a, ans, maxv, work, True)
    assert(maxv[0] == e)
```

Question: What courses will you take so that you will get maximum marks

- 1.You return max marks
- 2.An array of list of course indices (must be between 0 to n- 1)
- If you take i you cannot take i+1
- 3. How much work you did
- 4. If (show==True) show each step

Time Complexity = ?  
Space Complexity = ?

```

----- problem 1 -----
[0, 1, 2]
[1, 2, 4]
1 : [0] = 1
2 : [1] = 2
3 : [2] = 4
4 : [0, 2] = 5
----- Alg 1 -----
maxv = 5
ans = [0, 2]
work = 30
----- Alg 2 -----
maxv = 5
ans = [0, 2]
work = 5
I will run hidden tests after you submit
The complexity of alg1 is -----
The complexity of alg2 is -----
10 marks will be deducted if tou dont fill
EXAM ENDS. Cannot post more than once in Canvas
Press any key to continue . . .
```