

## Project OOPS

### Optimization problem for task scheduling

The basic idea that you have given set of objects and you have to develop application that choice best feasible solution in some criteria.

Example; we have next following tasks and each task has start time and end time and its profit

Task no	A or 0	B	c	D	E	F	G
Start	0	3	4	9	7	1	6
End	2	7	7	11	10	5	8
profit	12	8	1	22	6	9	15

We need the application to divide this main set to minimum number of subgroups which we called set so could we have set 1 and set 2 and etc.. ..

Each set has next properties

- 1- Not overlapping allowing between tasks in same set
- 2- Not allow for any set to Contains any idle time
- 3- Make the set busy as you can , so do create new set if it necessary
- 4- Try to find minimum number of sets as you can
- 5- Application show all possible sets and recommend set that has max profit
- 6- Criteria of success that this application give us minimum number of sets to perform these tasks

In your application:

1: Using file to read the set like this

Task	Start	End	profit
0	0	3	12
1	3	7	8
:	:	:	:
:	:	:	:

2:Then using vector read this date and show only on screen the possible set that we could get

So the possible solution for the above example

Set1 {  $A_{[0,2]}$  ,  $B_{[3,7]}$  ,  $E_{[7,10]}$  }

Set 2 {  $F_{[1,5]}$  ,  $G_{[6,8]}$  ,  $D_{[9,11]}$  }

Set 3 {  $B_{[4,7]}$  }

Notice this is just sample , the application should give us optimum solution regardless what the main set continue

Good Luck