

A construction company has four projects in progress. According to the current allocation of labour, equipment and materials, the four projects can be completed in 30, 40, 36 and 50 weeks respectively. Management wants to reduce the completion times and has decided to allocate an additional \$70,000 for this purpose, to be divided among the four projects. The new completion times as functions of the additional funds allocated to each project are given in the table below.

How should the \$70,000 be allocated among the projects to achieve the largest total reduction in completion times? Assume that the funds can only be allocated in blocks of \$10,000. The table below gives completion times as a function of funds spent. Thus if we spend \$20,000 on Project 3 then its completion time is now much reduced to 22 weeks.

funds	Project 1	Project 2	Project 3	Project 4
0	30	40	36	50
10,000	24	37	30	41
20,000	21	28	22	36
30,000	14	22	21	32
40,000	14	17	18	25
50,000	12	16	16	22
60,000	10	14	14	22
70,000	9	14	12	20