E-Problem 0 [Fifty Criminals]

Tihar jail offers a scheme for knocking down criminals with baseballs. There were 10 criminals which you can knock over. You can take as many throws as you like at one cent per piece and stand as close as you please. If you add the numbers on all men that you knock down and get a sum exactly fifty, you get a genuine 25 cent cigar with gold band around it. The numbers on criminals are as follows: 15, 9, 30, 21, 19, 3, 12, 6, 25, 27. **Formulate an ILP and find the minimum cost for getting those 25 cents.**

- Suppose that the criminal with number 25 gets a new label of 24. What is the solution now?

- Are there other solutions, not necessary optimal?

- Formulate the problem with 1000 criminals where the value of each criminal is a different number between 1 and 1000. Find the smallest subset with a sum of 5000.