Question 1

Let be the number of products j produced by machine i, where i = 1,2, j = 1,2,3 stand for product A, B, C

Let be a binary variable that is equal to 1 if any product j is produced by machine, 0 otherwise.

Minimize

S.T.

Linking constraints:

If

the associated setup cost should be added to the total coast!

Question 2

Let be the tons of supplies shipped from port to destination j, where i =1,2,3; j = 1,2,3,4

Let be a binary variable that takes the value 1 if ship k travels to port i, where k=1,2; i =1,2,3

Minimize

s.t.