Week - 11

a sequence of matrices write an algorithm to find most
ent way to multiply these matrices together. To find the optimal
ion, you need to find the order in which these matrices should be
plied.

ithm :→

1) START
2) input n
3) p[n+1]
4) if i>=n goto step 6
5) input p[i], p[i+1]
6) Print matchainorder(p,n+1)
7) STOP

```
matchainorder(p,n){
   m[n][n], i, j, k, l, q;
   for(i=1; i<n; i++)
        m[i][i] = 0;
   for(l=2; l<n; l++){
     for(i=1; i<n-i+1; i++){
        j = i+l-1;
      m[i][j] = INT.MAX;
     for(k=i; k<=j-1; k++){
      q=m[i][k]+m[k+1][j] + p[i-1]*p[k]*p[j]
       if(q<m[i][j])
          m[i][j] = q
       }
     }
   }
   return m[1][n-1];
}
```

a set of available types of coins. let suppose you have infinite of each type of coin. For a given value N, you have to design gorithm and implement it using a program to find no. of ways ch these coins can be added to make sum values equal to N.

tion :→

1) START
2) input n
3) i, j, a[n]
4) if i >= n goto step 7
5) input a[i]
6) input amt
7) i = 1
8) if i >= amt goto step 11
9) ans[i] = 0
10) ans[0] = 1
11) if j >= n goto step 14
12) if i >= amt goto step 11
13) if (a[j] <= i)
    (i) ans[i] = (ans[i - a[j]])
14) Print ans[amt]
15) STOP

a set of elements you have to partition the sets into two subset that the sum of elements in both subset is same. Design an and implement it using a program to solve this problem.

m :→

1) START
2) input n
3) i, j, a[n]
4) if i>=n goto step 6
5) input a[i]
6) sum = 0, i = 0
7) if i>=n goto step 8
8) if (sum % 2 != 0)
   (i) Print "No" return 0
9) sum = sum/2
10) bool s[n+1][sum+1]
11) if i>=n goto step 16
12) if j>= sum goto step 11
13) if (j==0)
   (i) s[i][j] = 1
14) else if (i==0)
   (i) s[i][j] = 0
15) else
   (i) if (a[i-1]>j)
      s[i][j] = s[i-1][j]
   (ii) else
      s[i][j] = (s[i-1][j] || s[i-1][j-a[i-1]])
16) if (s[n][sum]), Print "Yes"
17) else Print "No"
18) STOP