

(1)

Disjointset class handles sets of elements with no overlap. It has methods for finding the parent of an element and uniting two sets. Then we use Kruskal's Algorithm. It sorts edges by weight. It iterates through sorted edges and adding non-cyclic ones to the MST. Then it merges sets using disjoint set's union operation.

(2)

The code reads an integer 'T' from the input file. T represents a count of iterations of on subsequent calculations. An array 'ar' of size 'T+1' is created and initialized with all zeros. The initial value of  $ar[0]$  is set to 1. Then a loop runs from 1 to T. For each index  $i$ , the value of  $ar[i]$  is updated. It adds the value of  $ar[i-1]$  if  $i$  is greater than or equal to 1. This step essentially computes a sequence where each element

is the sum of the previous two elements, similar to the fibonacci sequence.

(3)

minC Function aims to solve the minimum coin change problem using DP. It takes two arguments, a list of coin values 'cn' and a target amount 'amt' to make change for. It sorts the coin values in ascending order. It initializes an array 'arr' of size 'amt + 1' with initial values set to positive infinity. For each value  $i$  to 'amt', it iterates through each value and tries to find the minimum. The function iterates through all. Returns arr[amt] if a solution is found, if not it returns -1.