```
Maxprofit(TH, batch_number){
  profit^cb = -∞
  alreadyAssignedTasks = 0
  S := {(recipe(), I, J, ∅)}
  while S != ∅ do
    selectedSubProblem := select_remove(S)
    if(selectedSubProblem.feasible(TH))
      if(selectedSubProblem.profitbound_upper()>= profit^cb
        if(selectedSubProblem.isLeaf())
          profit^cb.update
        else
          j:= select(J')
            for all i∈Ij \  alreadyAssignedTasks do
              alreadyAssignedTasks =  alreadyAssignedTasks + j
            Gi(N,A1,A2^i,w^i) := G(N,A1,A2,w)
            for all i′ ∈ U(i′,j)∈A Ii′^+ \ {i} do
              A2^i := A2^i ∪ {(i′, i)}
            end for
            for all i′ ∈ Ii^+ do
              wi,i′ ^i := ti,j ^pr
            end for
            S := S ∪ (Gi(N,A1,A2^i,w^i), J′,A ∪ {(i, j)})
          end for
          if I ⊆ U j′∈J′, j!=j′ Ij′ then
            S := S ∪ (G(N,A1,A2), I, J′ \ {j},A)
          end if
        end if
      end if
    end if
  end while
  return profit^cb
}
```