| *#Finally, we minimize the DFA we got from Powerset Construction* *#The minimized DFA is canonical : Every single correct implementation of DFA minimization should agree on it*   *#Let's go*  subroutine min-DFA of   Input: DFA   Output: DFA      dfa-accept-states = dfa.accept as set  dfa-reject-states = {}  dfa-state-to-min-dfa-state = new map  for every state in dfa.states {  *#Mesh m7taga 7aga ya3ny*  if state is not in dfa-accept-states {  add state to dfa-reject-states  dfa-state-to-min-dfa-state[state] = dfa-reject-states  }  else {  dfa-state-to-min-dfa-state[state] = dfa-accept-states  }  }   min-dfa-states = {dfa-accept-states,dfa-reject-states}   more-states-to-split = True  while more-states-to-split {  more-states-to-split = False   for every min-dfa-state in min-dfa-states {  if size of min-dfa-state > 1 {   split-states = new map  for each dfa-state in min-dfa-state {  dfa-state-transition-table = new map   for every transition (dfa-state,b,chars) in dfa.transitions {  dfa-state-transition-table[chars] = dfa-state-to-min-dfa-state[b]   }   if dfa-state-transition-table does not exist in split-states {  split-states[dfa-state-transition-table] = {dfa-state}  }  else {  add dfa-state to split-states[dfa-state-transition-table]  }  }   if size of split-states > 1 {  remove min-dfa-state from min-dfa-states   for each (\_, splitted-min-dfa-state) in split-states {  add splitted-min-dfa-state to min-dfa-states   for every dfa-state in splitted-min-dfa-state {  dfa-state-to-min-dfa-state[dfa-state] = splitted-min-dfa-state  }  }  more-states-to-split = True  }  }  }  }   min-dfa-start = dfa-state-to-min-dfa-state[dfa.start]    min-dfa-accept = {}  for every state in dfa.accept {  min-dfa-accept.push(dfa-state-to-min-dfa-state[state])  }  min-dfa-transitions = {}  for every transition (a,b,chars) in dfa.transitions {  min-dfa-transitions.push(new Edge(dfa-state-to-min-dfa-state[a],  dfa-state-to-min-dfa-state[b],  chars))  }    return new DFA(min-dfa-start,  min-dfa-accept as list,  min-dfa-states as list,  min-dfa-transitions as list) |
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