

Let the switches that OPT produces be: where  $k$  is arbitrary

$$OPT = \{P_1, P_2, P_3, \dots, P_k\}$$

where  $k \leq T$ , and the requisites - number of students having the greater number of scheduled jobs ~~picked~~ the condition of being picked first.

Let  $w$  be the initial switch where  $G_w$  is not similar to  $P_w$ . Using the greedy algorithm, GAB, we can produce a list with the least number of switches between the group of students that are registered for the experiment up until  $T$  switches. By using the cut and paste methodology, to cut ~~away~~  $O_w$  and paste in  $G_w$ , to the extent of  $k$  would produce:

$$OPT = \{G_1, G_2, G_3, \dots, P_{w+1}, \dots, P_k, \dots\}$$

$$\text{where } G_1, G_2, G_3, \dots, G_i = P_1, P_2, P_3, \dots, P_w.$$

GAB now is the result of all the switches. Except at  $P$  we haven't produced the entirety of switches that will ensure the fulfillment of all experiments. therefore, we have reached a contradiction of ~~the~~ assumption of all experiments that  $P \leq k$ . Thus ~~our~~ our greedy algorithm will provide us with the optimal solution to produce a list with the least number of ~~switches~~ switches for any number of students, and still have all of our experiments conducted.