Input: subjects attitude: $A = \{a_i\}_{i=1}^{n}$, where $a_i \in \{0, 1\}$ and $n \in \mathbb{N}$;
distribution of subjects D_i with $i \in I$ where $I = \{1, ..., 4\}$
Output: a set P with all pairs in the current session;
an updated distribution of subjects D_i'

begin
- create an empty set $P = \{\}$ for all pairs in this session
- **while** *subject attitude sequence is not empty* **do**
  - create a positive and negative attitude set. Let i be such that $a_i = j$:
    $S^+ = \{i : a_i = 1\}$
    $S^- = \{i : a_i = 0\}$
  - **if** $|A| > 1$ **then**
    - **if** $|S^+| = 0$ **then**
      - **if** *the number of subjects in* $D_1 \leq 50$ **then**
        $P = P \cup \{S_1^-\} \times \{S_2^-\}$
        a_{i-}, where $i = S_1^-$ and a_{j-}, where $j = S_2^-$
        $D_1' = D_1 + 2$
      - **else**
        assign a_i to study 2 and a_{i-}, where $i = S_1^-$
        assign a_j to study 2 and a_{j-}, where $j = S_2^-$
    - **else if** $|S^+| = 1$ **then**
      - **if** *the number of subjects in* $D_2 \leq 50 \wedge D_3 \leq 50$ **then**
        $P = P \cup \{S_1^-\} \times \{S_1^+\}$
        a_{i-}, where $i = S_1^-$ and a_{j-}, where $j = S_1^+$
        $D_2' = D_2 + 1$; $D_3' = D_3 + 1$
      - **else**
        assign a_i to study 2 and a_{i-}, where $i = S_1^-$
        assign a_j to study 2 and a_{j-}, where $j = S_1^+$
    - **else**
      - **if** *the number of subjects in* $D_4 \leq 50$ **then**
        $P = P \cup \{S_1^+\} \times \{S_2^+\}$
        a_{i-}, where $i = S_1^+$ and a_{j-}, where $j = S_2^+$
        $D_4' = D_4 + 2$
      - **else**
        assign a_i to study 2 and a_{i-}, where $i = S_1^+$
        assign a_j to study 2 and a_{j-}, where $j = S_2^+$
    - **else**
      assign user a_1 to study 3 and empty $A = \{\}$
- **end**

end