### 1ai: Formal, Long, Step-by-step List

1. **Plan Summary**
   * **Human Worker (h1):** Executes Electrical Installation (t2\_ip2) followed by Electrical Installation (t2\_ip1) at Room H. Subsequent to this, h1 moves to Room D for Plumbing Installation (t3\_bza). h1 then transits through Room H and moves to Room E for the final Plumbing Installation (t3\_bzb).
   * **Robot r1:** Initiates movement from Room B to Room F (l6) and performs Foundation preparation (t1\_msa).
   * **Robot r2:** Moves from Room C (l3) to Room G (l7) to execute Foundation preparation (t1\_msb).
   * **Robot r3:** Completes Finishing work (t4\_se1) at Room J (l10), then relocates sequentially via Room G to Room I (l9) to perform the second instance of Finishing work (t4\_wcp1).
2. **Pareto Front Explanation**
   * The Pareto front delineates the optimal set of non-dominated solutions. This set represents the most efficient trade-offs possible between the two constrained mission objectives: maximizing the overall probability of success and minimizing the total mission cost. No solution exists that can improve one metric without quantifying a degradation in the other.
3. **Optimal Solution Details (Minimum Probability ≥0.90)**
   * The optimal solution satisfying the minimum probability constraint of 0.90 is the one with a **0.904** overall probability of success and a corresponding minimum cost of **$48.101**.
   * **Trade-off Summary:** This solution achieves the required 0.90 success rate at the lowest cost by conservatively allocating a maximum of **one retry** to all Human Worker (h1) task instances. The mission reliability is secured by allocating higher retry capacity to autonomous agents for critical tasks: Robot r3's t4\_se1 receives **five retries**, and Robot r2's t1\_msb receives **four retries**.
   * **Task Retry Allocation:**
     + h1: t2\_ip2 (1), t2\_ip1 (1), t3\_bza (1), t3\_bzb (1).
     + r1: t1\_msa (2).
     + r2: t1\_msb (4).
     + r3: t4\_se1 (5), t4\_wcp1 (4).