How to find a person's name in the telephone book

Use two machines:

- **List of names → Midpoint → Midpoint name**
- **List of names → FindName → Info for target name**

Assume existence of the machine called **Midpoint** (like a rule of production):
- **Input:** list of names
- **Output:** Midpoint name (how? Count backwards and forwards)

Use **Midpoint** to find specific name in the telephone book

**CALL FindName** (telephone book, a person's name) → output of function

**WRITE** output of function

**FUNCTION FindName (List, Target)**

- **CALL Midpoint (List) → output of function**
- **WRITE** output of **Midpoint** in Box called **Intermediate**
- **COMPARE:** Target to **Intermediate** (LESS THAN, EQUAL TO, or GREATER THAN)
  - **IF LESS THAN then**
    - **ERASE** names from **Intermediate** onwards from **List**
  - **IF GREATER THAN then**
    - **ERASE** names from first name to **Intermediate** from **List**
  - **IF EQUAL TO then**
    - **OUTPUT** List entry (e.g. telephone number) for **List**

**EXIT FUNCTION**

**CALL FindName (List, Target)** → output of function (a name)

**END OF FUNCTION**