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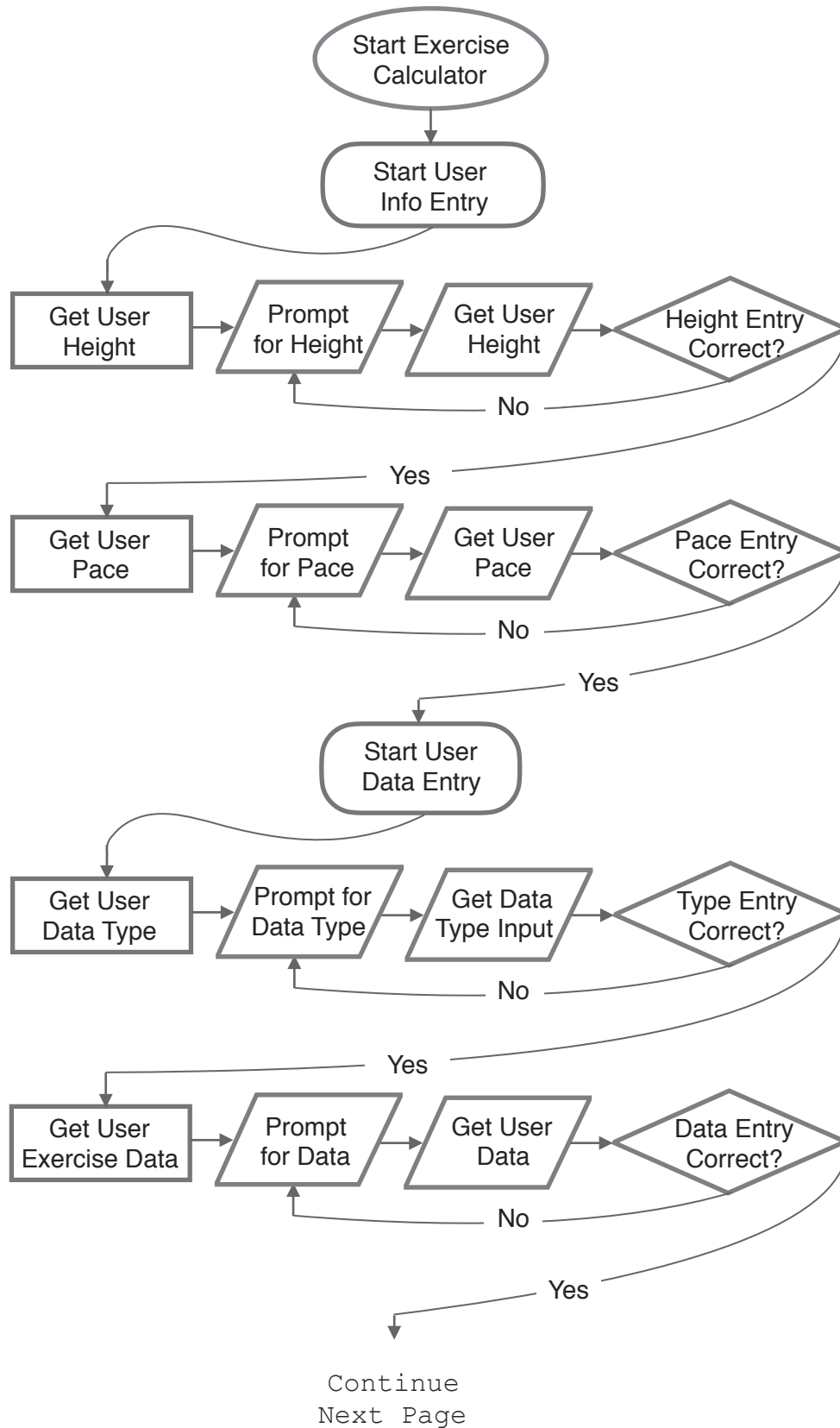
### Algorithm I<sub>1</sub>

1. Output the program name and a brief overview of its purpose.
2. Get the user's Information.
  - 2.1. Get the user's height.
    - a. Prompt the user to enter their height in inches. Provide an example of a valid entry.
    - b. Read in the user's height.
    - c. If the height entered is a positive whole number, save the height and go to step 2.2. Otherwise, print that the entry was incorrect and go back to step 2.1.
  - 2.2. Get the user's pace.
    - a. Prompt the user to enter their pace in minutes per mile. Provide an example of a valid entry.
    - b. Read in the user's pace.
    - c. If the pace entered is a positive whole number, save the pace and go to step 3. Otherwise, print that the entry was incorrect and go back to step 2.2.
3. Get the user's exercise data.
  - 3.1. Determine the type of data that the user will enter.
    - a. Prompt the user to enter their desired entry type, time spent exercising in "minutes", or "steps" taken.
    - b. Read in the user's selected data entry type.
    - c. Convert the entry to upper case.
    - d. If the user's entry is either "MINUTES", or "STEPS", save the entry and move on to 3.2. Otherwise, print that the entry was incorrect and go back to step 3.1.
  - 3.2. Get the user's exercise data.
    - a. Prompt the user to enter as many entries as they would like, each separated by a space. Provide an example of a valid entry.
    - b. Read in the user's exercise data.
    - c. If each entry is a positive whole number, save the data and go to step 4. Otherwise, print that the entry was incorrect and go back to step 3.2.

## Algorithm I<sub>2</sub>

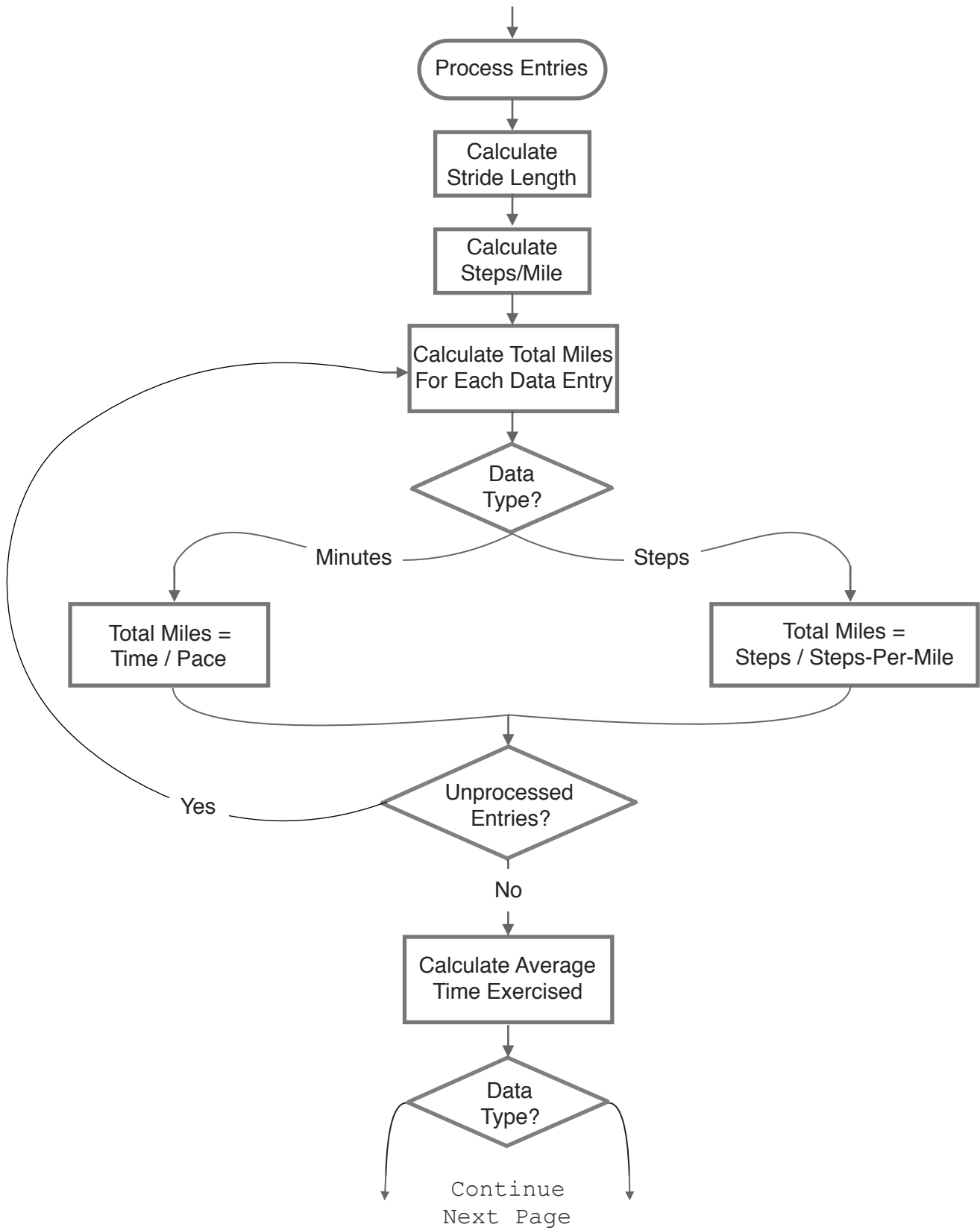
4. Process the user's additional Info.
  - 4.1. Calculate and save the user's approximate stride length. A person's approximate stride length in inches is 0.42 multiplied by their height in inches.
  - 4.2. Calculate and save the user's approximate number of steps per mile. A person's approximate number of steps per mile is the nearest whole number to the number of inches in a mile, 63360, divided by their stride length. Once complete, move on to step 5.
5. Process the user's exercise data.
  - 5.1. Calculate and save the the total number of miles exercised for each datum.
    - a. If the selected data entry type is minutes exercised, the number of miles exercised is the quotient of the user's number of minutes exercised and the users pace. If all of the user's exercise data been processed, move on to step 5.2. Otherwise, go back to step 5.1 using the next unprocessed datum.
    - b. If the selected data entry type is steps taken, the number of miles exercised is the quotient of the number of steps taken and the number of steps per mile. If all of the user's exercise data been processed, move on to step 5.2. Otherwise, go back to step 5.1 using the next unprocessed datum.
  - 5.2. Calculate and save the user's average time per exercise.
    - a. If the selected data entry type is minutes exercised, the average time spent per exercise is the sum of all exercise data, divided by the number of entries. Once complete, move on to step 6.
    - b. If the selected data entry type is steps taken, the average time spent per exercise is the pace, multiplied by the number of miles exercised for the quotient of the sum of the data, and the number of entries. Once complete, move on to step 6.
6. Complete the program.
  - 6.1. Output the number of miles exercised for each of the user's data entries.
  - 6.2. Output the average time spent per exercise.
  - 6.3. Prompt the user to either "quit" the program, or "restart".
    - a. Read in the user's response.
    - b. Convert the input to uppercase.
    - c. If the input is "QUIT", end the program.
    - d. If the input is "RESTART", go to step 1.

Flow Chart I<sub>1</sub>



Flow Chart I<sub>2</sub>

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Flow Chart I<sub>3</sub>

