🛠️ Workshop Registration Management Using ArrayList

You are developing a software application for workshop organizers that helps them manage and schedule various community workshops. The application allows users to input multiple workshops and automatically sorts them based on the number of registered participants.

Each workshop has a **name** and a **number of participants**, which must be entered on separate lines.

⚙️ Input Validation

The application must validate the input to ensure that:

- The number of participants is an **integer** within a specific range (**5 to 100**).
- The number of workshops is **between 5 and 10**.
- If the input does not meet the expected format or contains invalid data, appropriate error messages should be displayed.

🧩 Functionality

After collecting all workshop details, the program should **sort the workshops based on the number of participants in ascending order**, making it easier for the organizers to prioritize smaller workshops that require closer attention.

📥 Input Format

Input all workshops in a single batch, with each workshop's details on separate lines:

1. **First Line**: Workshop Name (string)
2. **Second Line**: Number of Participants (integer)

You can enter **between 5 and 10 workshops**. The number of participants must be an integer **between 5 and 100**.

Enter `"end"` to signal that the input is complete.

📤 Output Format

Each workshop should be displayed in the following format:

```less
Workshop Name: [workshop name]
Registered Participants: [participant count]
```

- Each workshop is displayed on a **separate line**, with a **blank line between workshops**.
- The workshops are sorted in **ascending order based on the number of registered participants**.

⚠️ Error Messages

Number Format Exception (Non-Integer Input):

```pgsql
Please enter a valid integer.
```

Number of Participants Out-of-Range (less than 5 or more than 100):

```sql
Participants must be between 5 and 100.
```

Insufficient or Excessive Number of Workshops (less than 5 or more than 10):

```javascript
Number of workshops must be between 5 and 10.
```

Sample Input 1

```arduino
Python Basics
25
Data Analytics
15
AI Workshop
30
Web Development
10
Cybersecurity
20
Cloud Computing
40
DevOps Fundamentals
35
Digital Marketing
18
end
```

Sample Output 1

```yaml
Workshop Name: Web Development
Registered Participants: 10

Workshop Name: Data Analytics
Registered Participants: 15

Workshop Name: Digital Marketing
Registered Participants: 18

Workshop Name: Python Basics
Registered Participants: 25

Workshop Name: AI Workshop
Registered Participants: 30

Workshop Name: DevOps Fundamentals
Registered Participants: 35

Workshop Name: Cloud Computing
Registered Participants: 40

Workshop Name: Cybersecurity
Registered Participants: 20
```

Sample Input 2

```arduino
Python Basics
3
Data Analytics
abc
AI Workshop
20
Web Development
10
Cloud Computing
30
end
```

Sample Output 2

```pgsql
Please enter a valid integer.
```

Sample Input 3

```arduino
Python Basics
2
Data Analytics
150
AI Workshop
20
Web Development
10
Cloud Computing
30
end
```

Sample Output 3

```sql
Participants must be between 5 and 100.
```

Sample Input 4

```arduino
Python Basics
25
Data Analytics
15
AI Workshop
30
Web Development
10
end
```

Sample Output 4

```javascript
Number of workshops must be between 5 and 10.
```