(1) Write a Java class `IntContainer` that uses hashing to maintain a container of 17 integers (small for testing purposes).

The class should have methods: `Insert, Remove, Display, Retrieve and Getstats`

- **Insert** – takes an integer parameter and attempts to insert it into the container. It returns `true` if it succeeds and `false` if it fails (for example the integer is already in the container or the container is full).

- **Remove** – takes an integer parameter and removes the item from the container. It returns `true` if the item was found and removed and `false` if the item was not found.

- **Display** – shows the contents of the container. For each non-empty location, show the location number and its contents.

- **Retrieve** – takes an integer parameter and returns `true` if the item is currently in the container and `false` if it is not.

- **Getstats** – displays statistics about the container implementation:
  
  - Current number of entries
  - Largest number of entries there has been at any time
  - Average collisions per insert
  - Average collisions per retrieve

(2) Test your class with an interactive menu-driven program that enables a user to give the following single-character commands:

- **C** clear the container – make the container empty – reset counters.
- **I** insert an item – user is prompted to enter the item. Error message if insert fails
- **R** remove the item – user is prompted to enter the item. Error message if remove fails.
- **D** display contents of container
- **G** get item – prompt user for item then report if it is in container
- **X** report statistics about container (see Getstats).
- **Q** quit the program.

You will probably find the definitions in `SavitchIn.java` (see course page) useful in dealing with input.

(3) Turn in a listing of your class definition, a listing of your test program and a copy of your test results.