

PROBLEM 1

Part-B

```
public boolean equals(Employee e) {
```

The system returned false information because the equals method was incorrectly overridden. The method signature was altered to take an argument of type "Employee" instead of "Object," but in method overriding, the signature must remain unchanged. The solution was to correct the equals method's method signature.

Part-C

In the EmployeeInfo class the removeDuplicates() method this line of code

```
if(tracker.containsKey(e)) {}
```

It uses the hashmap to track employees added to the noDupsList but the Employee class doesn't override the hashCode method. When the equals() method is overridden the hashCode method must also be overridden for the code to execute correctly. The solution was to override the Equals method too.

Part-D

In the EmployeeInfo class, the removeDuplicates() method introduced a new boolean variable, 'visited,' to track employee objects added to the noDuplicates List. This variable was also included in the overridden equals() and hashCode() methods, which impacted object equality by treating duplicates as unique objects during certain iterations. The solution was to either remove 'visited' from the removeDuplicates() method or exclude it from the overridden equals() and hashCode() methods.