Question 1

Task: Implement a class hierarchy for Employee with subclasses Manager, Developer, and Intern. Each subclass should override a method `work()` that describes their work. Write a program that demonstrates polymorphism by creating a list of employees and calling the `work()` method on each.

Requirements:

- Create an abstract base class `Employee` with fields for name and salary.
- Create concrete subclasses `Manager`, `Developer`, and `Intern` that inherit from `Employee`.
- Each subclass should override the `work()` method to describe their specific work.
- Create a program that demonstrates polymorphism by creating a list of employees and calling the `work()` method on each.

Sample Output:

```
Manager John is managing the project.
Developer Alice is coding the application.
Intern Bob is learning and assisting the team.
```

Question 2: Remove Duplicate Characters from a String

Task: Implement a function that removes duplicate characters from a string.
Requirements:

- The function should take a string as input and return a new string with duplicate characters removed.
- Implement the function to preserve the order of the characters in the original string.
- Write a program that demonstrates the usage of the function by prompting the user to enter a string and displaying the result.

Sample Input and Output:
Input:

```
Enter a string: Hello, World!
```

Output:

```
The string with duplicate characters removed is: Helo, Wrd!
```

Submission Guidelines

- Implement both questions in a single Java file or separate files as you see fit.
- Ensure your code is well-commented and follows good coding practices.
- Test your program with different inputs to verify correctness.
- Submit your Java code screenshot.