

Assignment-1

1. Write a program that prompts the user to enter an integer. Handle the Input Mismatch Exception that might occur if the user enters a non-integer value.

Program:

```
import java.util.InputMismatchException;
import java.util.Scanner;

public class IntegerInput {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        int number = 0;

        boolean validInput = false;

        while (!validInput) {
            try {
                System.out.print("Enter an integer: ");

                number = scanner.nextInt();

                validInput = true; // If no exception, input is valid
            } catch (InputMismatchException e) {

                System.out.println("Error: Invalid input. Please enter an integer.");

                scanner.nextLine(); // Clear the invalid input
            }
        }

        System.out.println("You entered: " + number);

        scanner.close();
    }
}
```

```
}  
}
```

Output:

```
Enter an integer: hello  
Error: Invalid input. Please enter an integer.  
Enter an integer: 5  
You entered: 5
```

2. Write a program that takes user input and converts it to an integer using `Integer.parseInt()`. Handle the `NumberFormatException` and `NullPointerException` that might occur during the conversion.

Program:

```
import java.util.Scanner;

public class IntegerConversion {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        try {

            System.out.print("Enter a string to convert to integer: ");

            String input = scanner.nextLine();

            if (input == null || input.isEmpty()) {

                throw new NullPointerException("Input string is null or empty.");

            }

            int number = Integer.parseInt(input);

            System.out.println("Converted integer: " + number);

        } catch (NumberFormatException e) {

            System.out.println("Error: Invalid input. Cannot convert to integer: " + e.getMessage());

        } catch (NullPointerException e) {

            System.out.println("Error: Input string is null or empty: " + e.getMessage());

        } finally {
```

```
        scanner.close();  
    }  
}  
}
```

Output:

```
Enter a string to convert to integer: 15  
Converted integer: 15
```

```
Enter a string to convert to integer: abcd  
Error: Invalid input. Cannot convert to integer: For input string: "abcd"
```