

```
import java.util.Scanner;
import java.io.File;
import java.io.IOException;
```

```
public class Binary {
    public Binary() {
        System.out.println("Please enter 'file' if using file or 'input' if
using the console.");
        Scanner scanner = new Scanner(System.in);
        String input = scanner.nextLine();
        String numberInput = "";
        if (input.equals("file")) {
            try {
                System.out.println("Enter your file name: ");
                input = scanner.nextLine();
                Scanner fileScanner = new Scanner(new File(input));
                numberInput = fileScanner.nextLine();
            } catch (IOException ex) {
                System.out.println("File not found.");
                scanner.close();
                System.exit(1);
            }
        }
        else {
            numberInput = scanner.nextLine();
        }
    }
}
```

```
        System.out.println("If you are translating from decimal to binary, type
\"dtb\".");
        System.out.println("If you are translating from binary to decimal, type
\"btd\".");
        input = scanner.nextLine();
        if (input.equals("dtb")) {
            String answer = "";
            int number = Integer.parseInt(numberInput);
            while(number > 0) {
                if (number % 2 == 1) {
                    answer = "1" + answer;
                }
                else {
                    answer = "0" + answer;
                }
                number = number/2;
            }
            System.out.println(answer);
        }
        else {
            int answer = 0;
            for (int a = numberInput.length() - 1; a >= 0; a--) {
                if (numberInput.charAt(a) == '1') {
                    answer = answer + (int)(Math.pow(2,
numberInput.length()-a-1));
                }
            }
        }
    }
}
```

```
        }
        System.out.println(answer);
    }
    scanner.close();
}

public static void main(String[] args) {
    new Binary();
}
}
```