

Task 1: Singleton

Implement a Singleton class that manages database connections. Ensure the class adheres strictly to the singleton pattern principles.

```
package test;
```

```
import java.sql.Connection;
```

```
import java.sql.DriverManager;
```

```
import java.sql.SQLException;
```

```
public class SingletonDatabaseConnection {
```

```
    private static SingletonDatabaseConnection instance;
```

```
    private SingletonDatabaseConnection() {
```

```
        try {
```

```
            Class.forName("your_database_driver_class");
```

```
            connection=DriverManager.getConnection("your_database_url", "your_username",  
"your_password");
```

```
        } catch (ClassNotFoundException | SQLException e) {
```

```
            e.printStackTrace();
```

```
            throw new RuntimeException("Error initializing database connection: "+e.getMessage());
```

```
        }
```

```
    }
```

```
    public static SingletonDatabaseConnection getInstance() {
```

```
        if (instance==null) {
```

```
            synchronized (SingletonDatabaseConnection.class) {
```

```
                if (instance==null) {
```

```
                    instance=new SingletonDatabaseConnection();
```

```
                }
```

```
            }
```

```
        }
```

```
        return instance;
```

```
    }
```

```
    private Connection connection;
```

```
public Connection getConnection() {  
    return connection;  
}  
  
public void closeConnection() {  
    if (connection!=null) {  
        try {  
            connection.close();  
        } catch (SQLException e) {  
            e.printStackTrace();  
        }  
    }  
}  
}
```