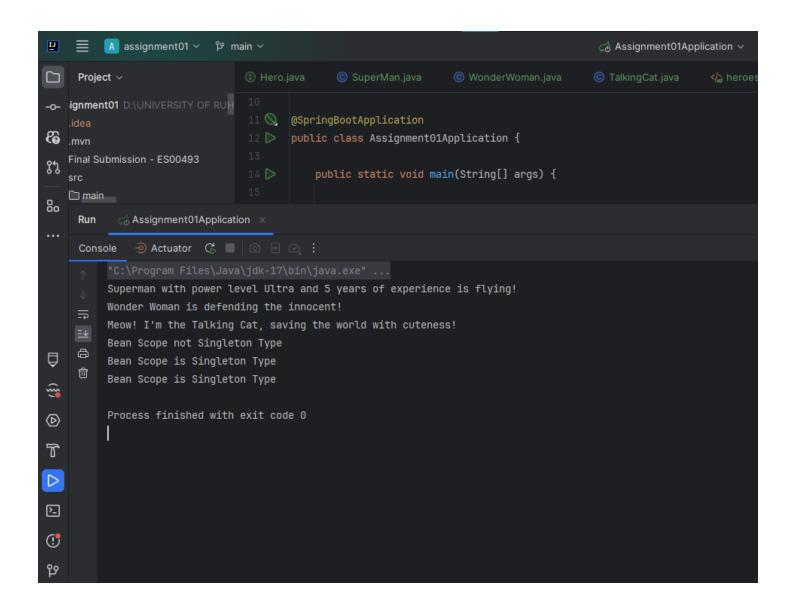# Assignment 01

Dilshan Pathirage – ES00493

1. What does singleton scope mean in Spring?

In Spring, a singleton-scope bean means that Spring application context manages a single reusable instance of the bean per container. The container ensures that only one instance of the bean is created and shared throughout the application's lifetime.

2. What is the difference between singleton and prototype?

Singleton Scope	Prototype Scope
Manage a single Instance of the bean for the entire application.	Creates a new Instance of the bean each time it is requested.
The same bean instance is shared across multiple injections.	A separate bean instance is provided for each request.
Managed by the Spring container throughout the application lifecycle.	Not managed beyond the initial instantiation the developer is responsible for disposal.

3. How does Spring know which constructor to use in XML?

Used Based on <constructor-arg> elements inside the bean definition.

- If there is only one constructor – Spring automatically uses it.
- If there are multiple constructors – Spring chooses the one that matches the number and type of arguments specified in <constructor-arg>.

4. What will happen if you try to inject value into a bean, but the constructor doesn't match?

Constructor does not match, Spring will throw a **BeanCreationException** during application startup.

Example Error: Exception in thread "main" org.springframework.beans.factory.UnsatisfiedDependencyException: Error creating bean with name 'superMan' defined in class path resource [heroes.xml]: Unsatisfied dependency expressed through constructor parameter 1: Ambiguous argument values for parameter of type [java.lang.Integer] - did you specify the correct bean references as arguments?