



BridgeLabz

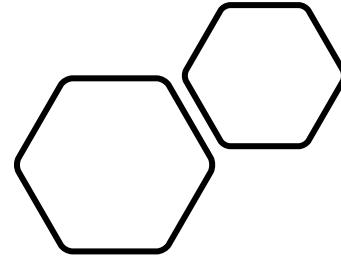
Employability Delivered

Mood Analyzer Problem

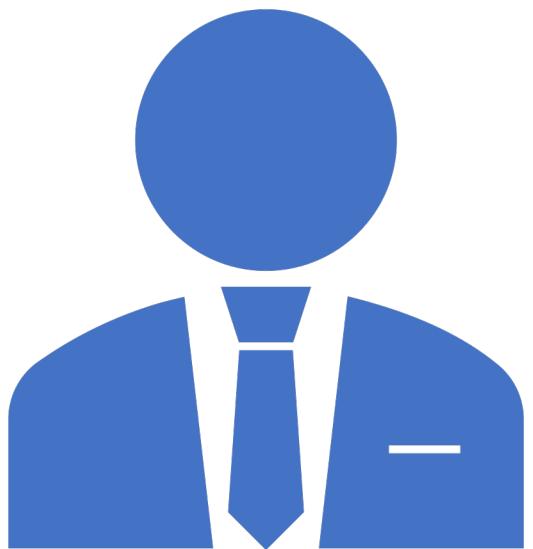
Emphasis on

- MSTest Test Cases
- Exception Handling
- Custom Exceptions
- Reflections

Mood Analyzer Problem



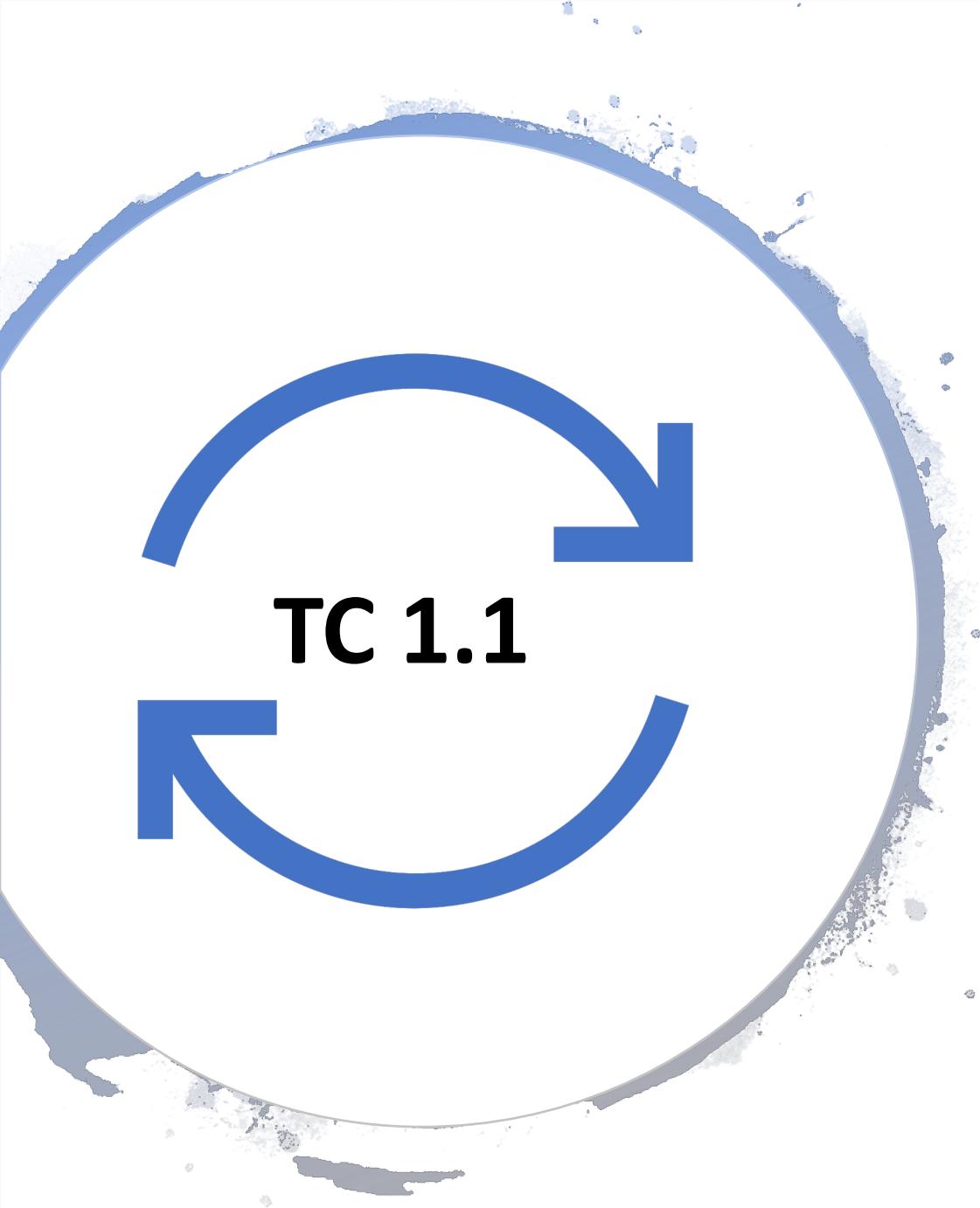
Handle Custom
Exceptions



UC 1

**Given a Message, ability
to analyse and respond
Happy or Sad Mood**

- Create MoodAnalyser Object
- Call analyseMood function with message as parameter and return Happy or Sad Mood



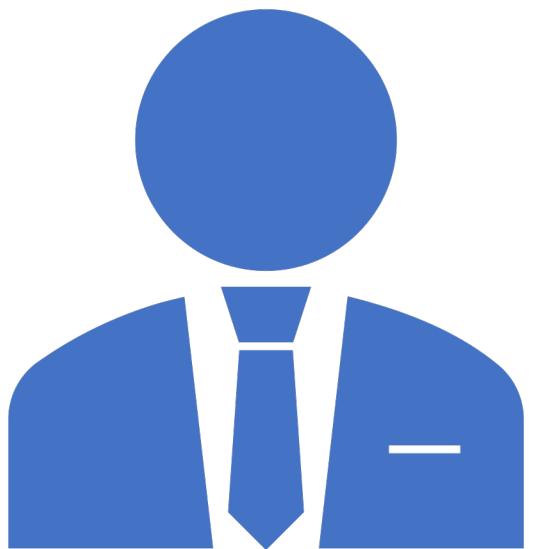
Given “I am in Sad
Mood” message
Should Return SAD

analyseMood method can just return
SAD to pass this Test Case (TC)



Given “I am in Any Mood” message
Should Return HAPPY

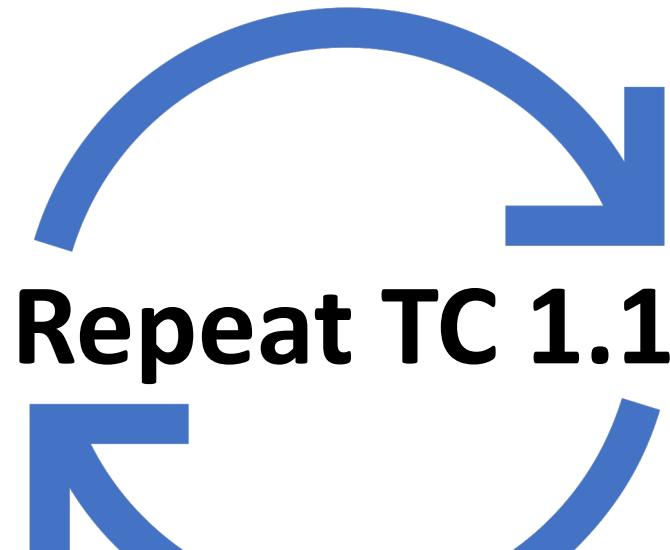
To make the Test case pass
analyseMood method need to check
for Sad else return HAPPY



Refactor

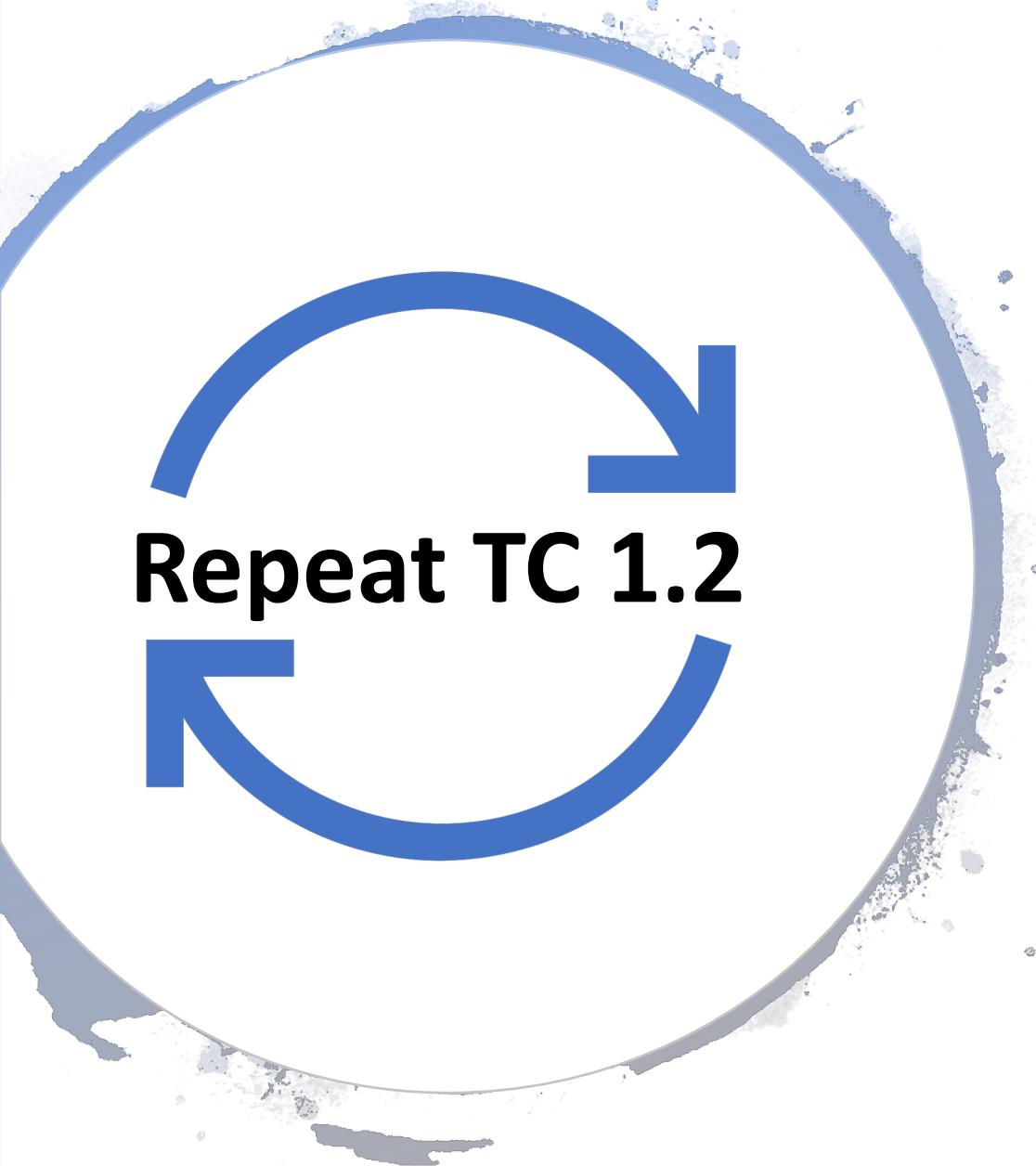
Refactor the code to take the mood message in Constructor

- **Note:**
- MoodAnalyser will have a message Field
- MoodAnalyser will have 2 Constructors – Default - MoodAnalyser() and with Parameters – MoodAnalyser(message)
- analyseMood method will change to support no parameters and use message Field defined for the Class



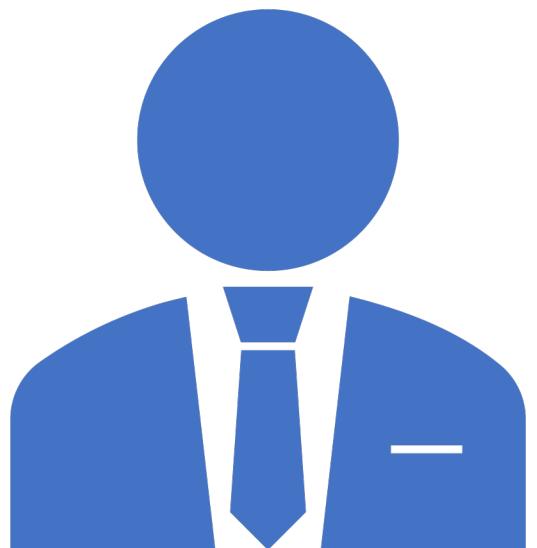
Given “I am in Sad Mood” message in Constructor Should Return SAD

To pass this Test Case when calling analyseMood method with no params should return SAD



Given “I am in Happy Mood” message in Constructor Should Return SAD

To pass this Test Case when calling analyseMood method with no params should return HAPPY



UC 2

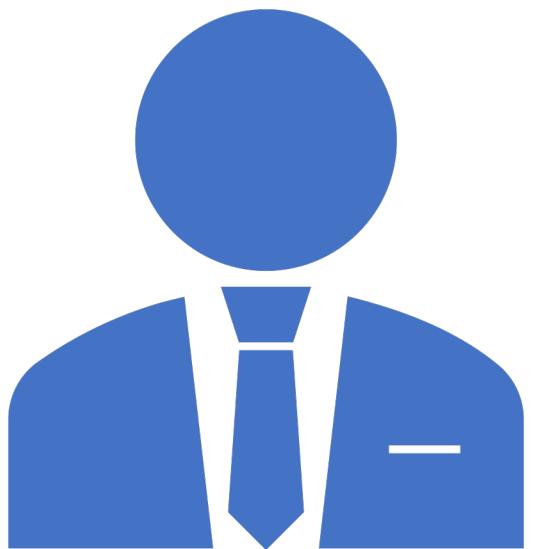
**Handle Exception if
User Provides Invalid
Mood**

- Like NULL



Given Null Mood
Should Return Happy

To make this Test Case pass Handle
NULL Scenario using try catch and
return Happy



UC 3

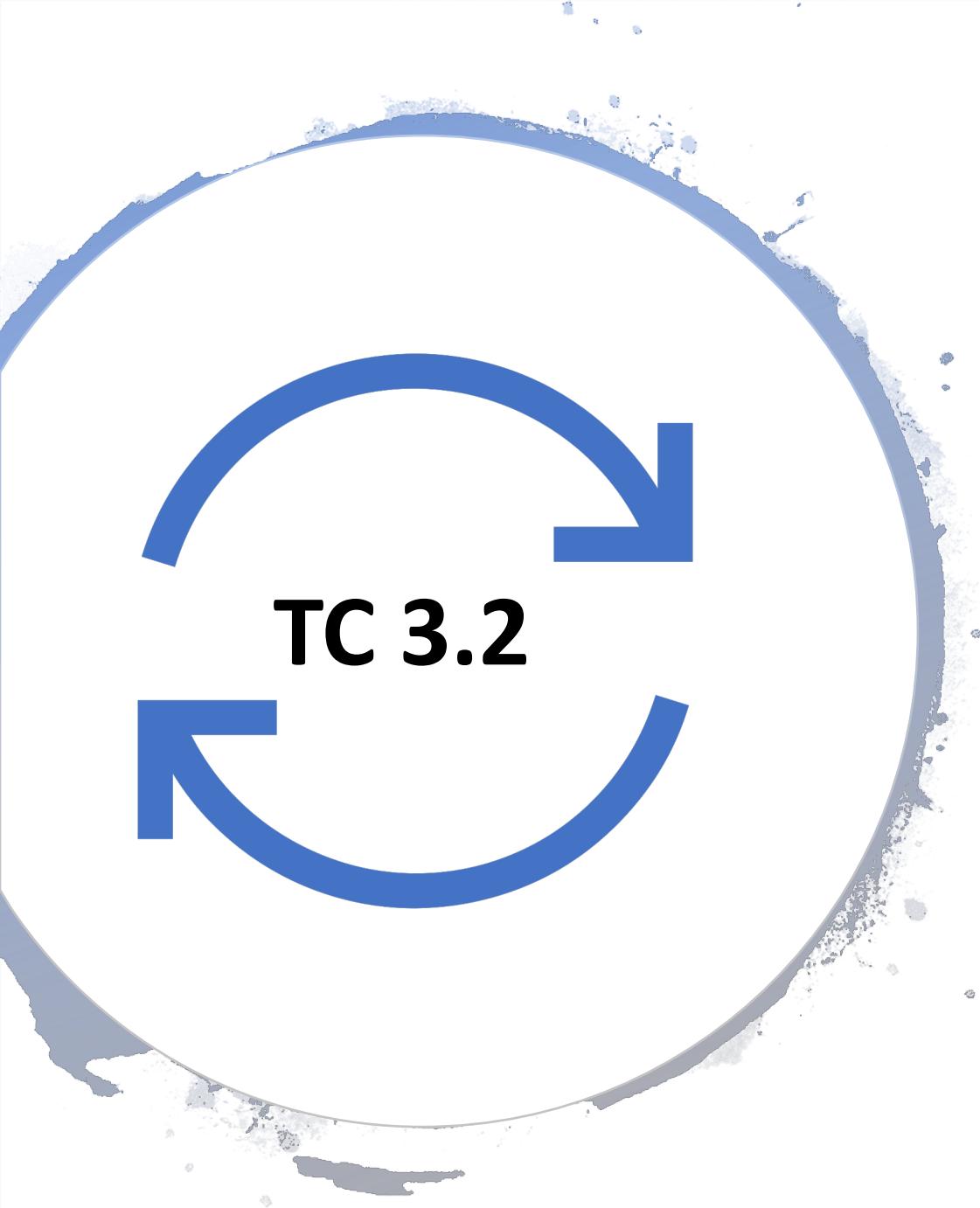
Inform user if entered Invalid Mood

- In case of NULL or Empty Mood throw Custom Exception MoodAnalysisException
- Use Enum to differentiate the Mood Analysis Errors



Given NULL Mood
Should Throw
MoodAnalysisException

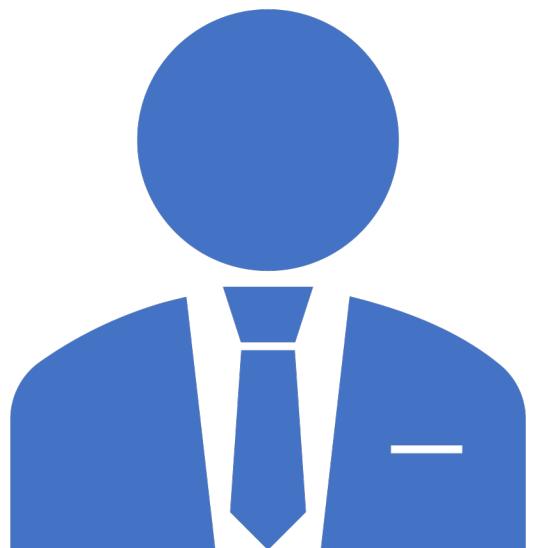
To pass this Test Case in try catch block
throw MoodAnalysisException



Given Empty Mood
Should Throw
MoodAnalysisException
indicating Empty Mood

Handle Empty Mood Scenario throw
MoodAnalysisException and inform
user of the EmptyMood

HINT: Use Enum to EMPTY or NULL



UC 4

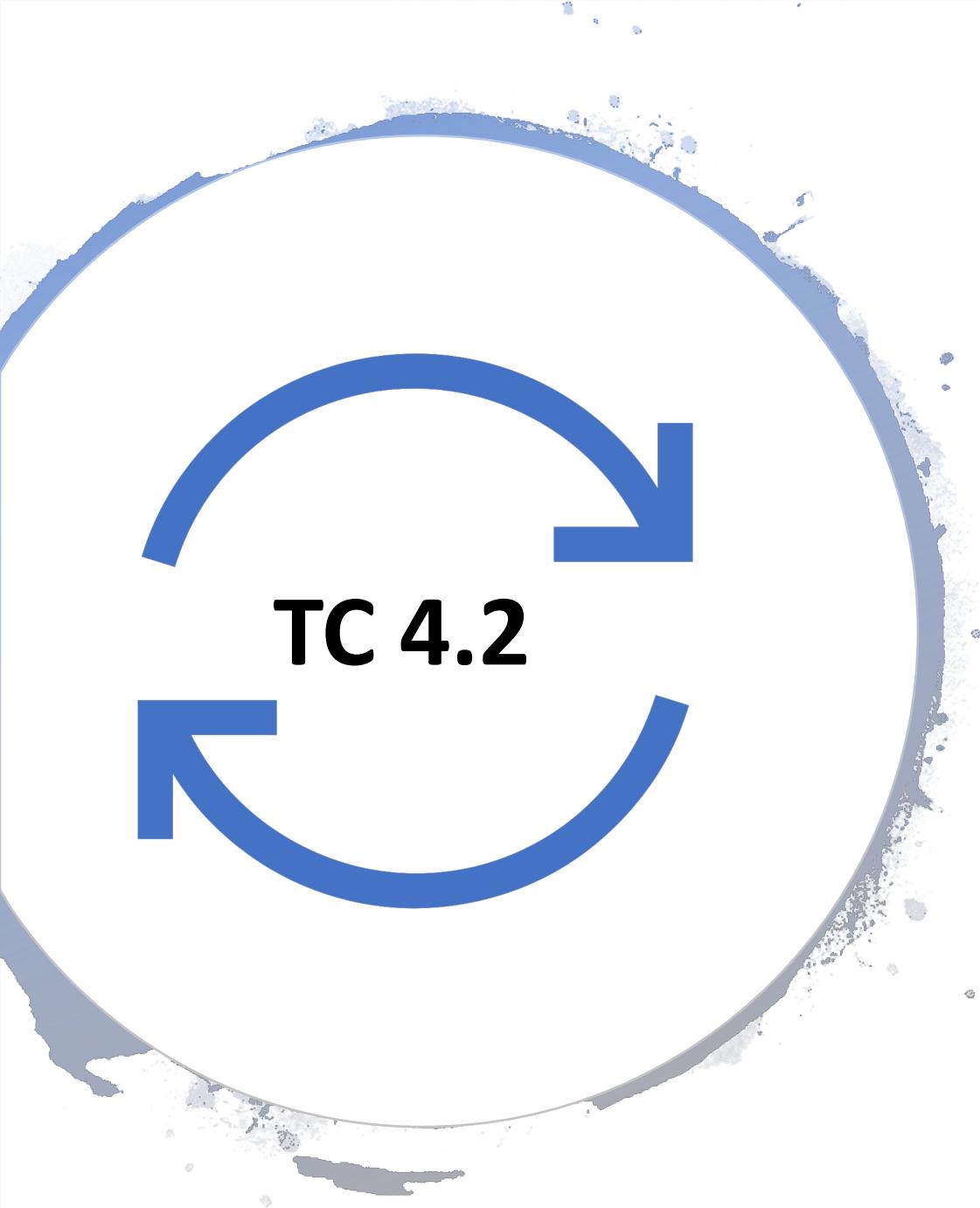
Use Reflection to Create MoodAnalyser with default Constructor

- Create MoodAnalyserFactory and specify static method to create MoodAnalyser Object



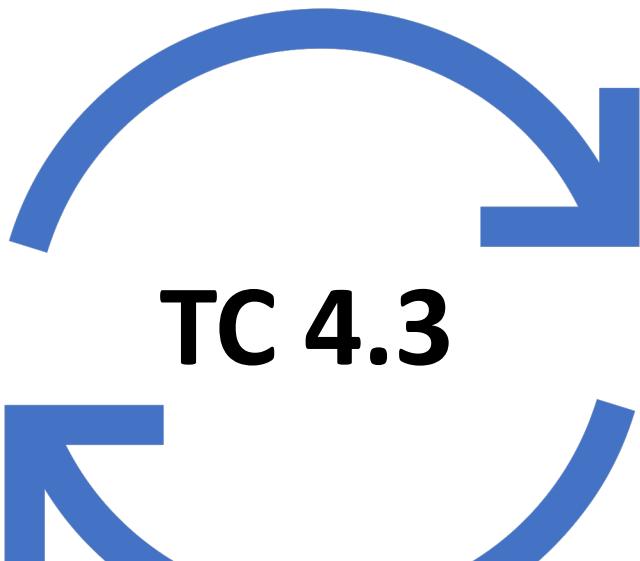
Given MoodAnalyser
Class Name Should
Return MoodAnalyser
Object

- Create MoodAnalyser Factory to create a MoodAnalyser Object with default constructor
- Use Equals method in MoodAnalyser to check if the two objects are equal
- Test passes if they are equal



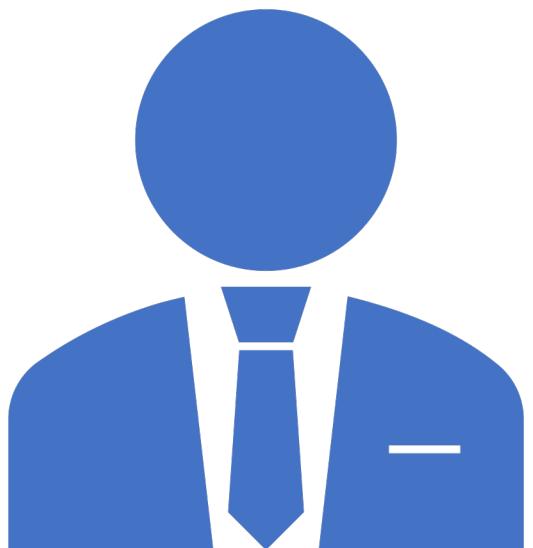
Given Class Name When
Improper Should Throw
MoodAnalysisException

To pass this test case pass wrong class name catch Exception and throw Exception indicating No Such Class Error



Given Class When
Constructor Not Proper
Should Throw
MoodAnalysisException

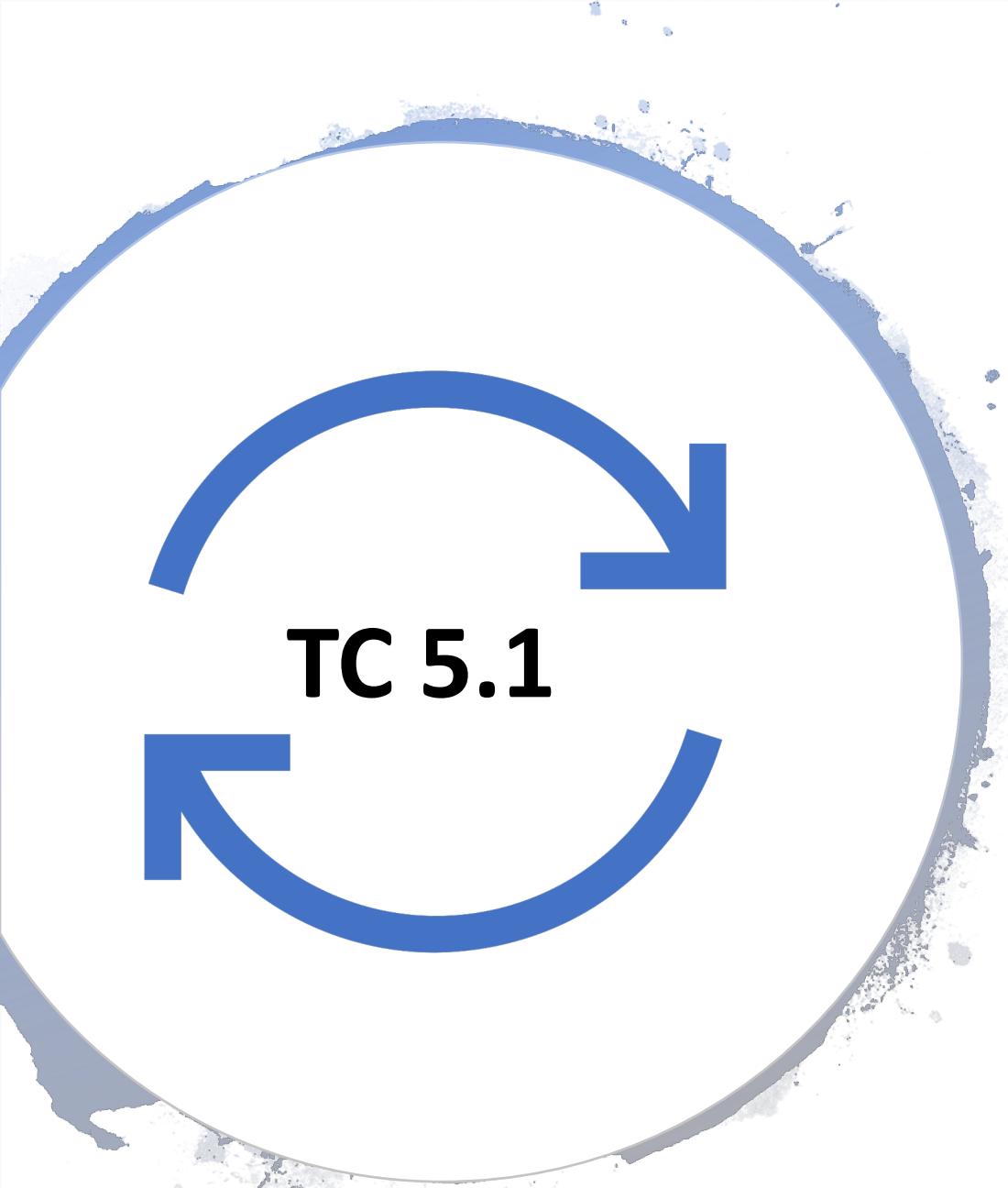
To pass this Test Case pass wrong
Constructor parameter, catch the
Exception and throw indicating No
Such Method Error



UC 5

Use Reflection to Create MoodAnalyser with Parameter Constructor

- Use MoodAnalyserFactory to create MoodAnalyser Object with Message Parameter



TC 5.1

**Given MoodAnalyser
When Proper Return
MoodAnalyser Object**

- Use MoodAnalyser Factory to create a MoodAnalyser Object with Parameter constructor
- Use Equals method in MoodAnalyser to check if the two objects are equal



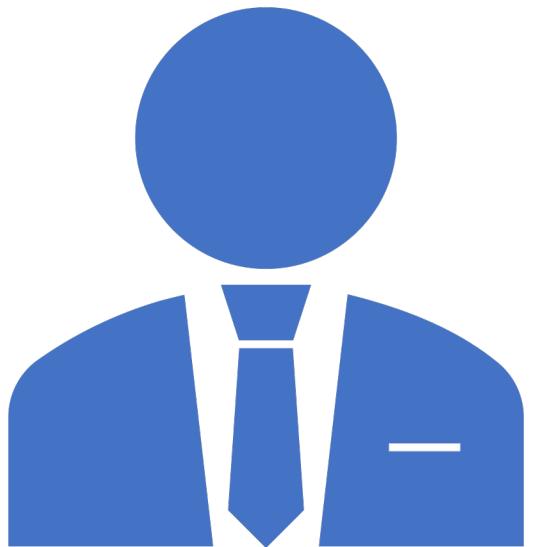
Given Class Name When Improper Should Throw MoodAnalysisException

To pass this test case pass wrong class name catch Exception and throw Exception indicating No Such Class Error



Given Class When
Constructor Not Proper
Should Throw
MoodAnalysisException

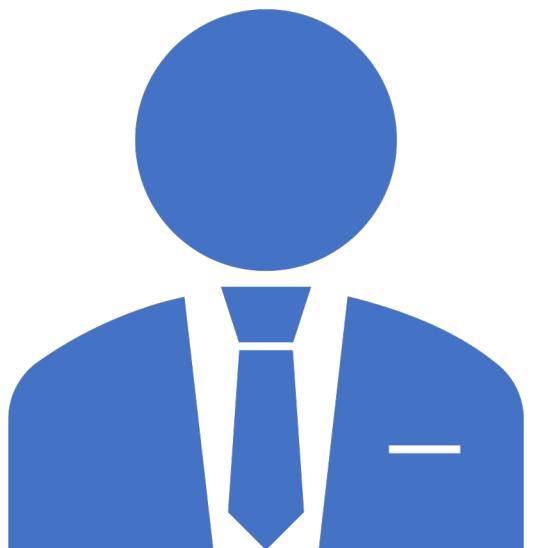
To pass this Test Case pass wrong
Constructor parameter, catch the
Exception and throw indicating No
Such Method Error



Refactor

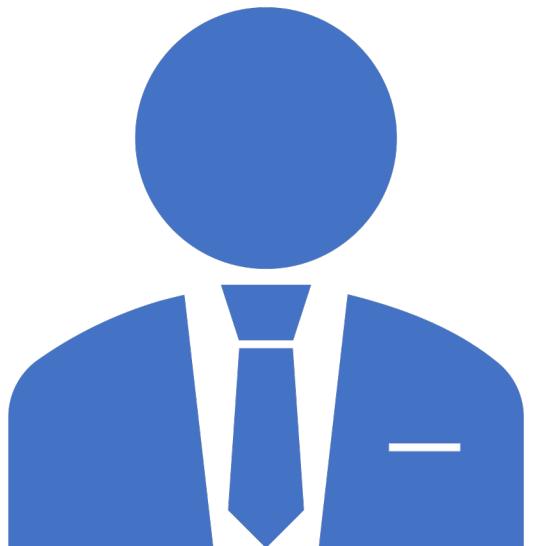
DRY principle is violated as the code for default and parameter constructor looks the same

- To achieve this do the following
 1. Use Java Feature of Optional Variable
 2. First get Constructor Object
 3. Then create the MoodAnalyser Object



UC 6

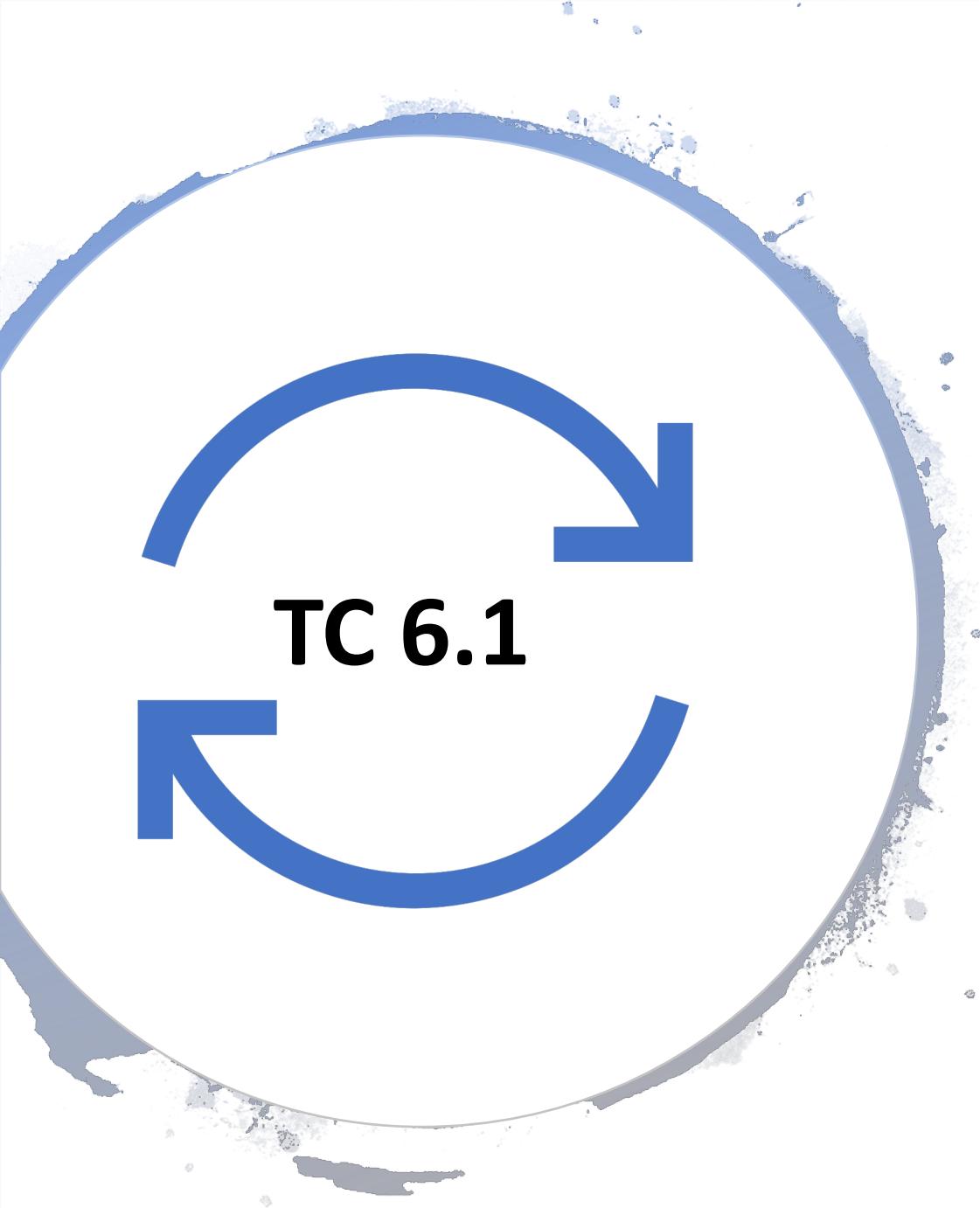
Use Reflection to
invoke Method –
analyseMood



Refactor

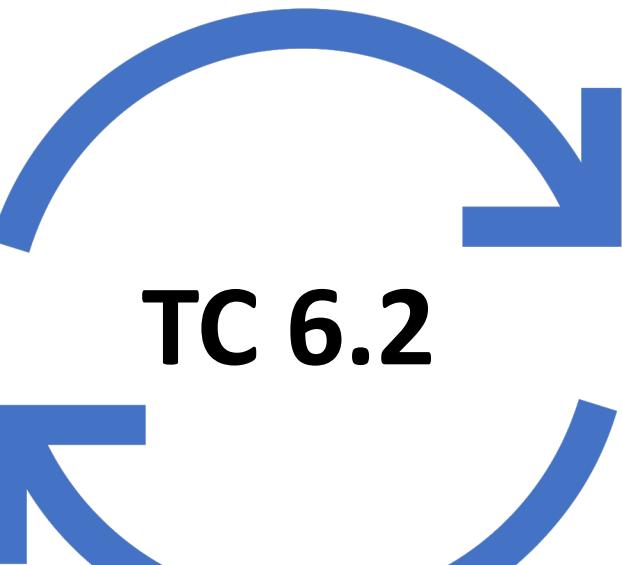
We also want the
MoodAnalyserFactory
to Invoke Method
using Reflection

- Change Name from MoodAnalyserFactory
to MoodAnalyserReflector and then Use
Reflector to Invoke Method



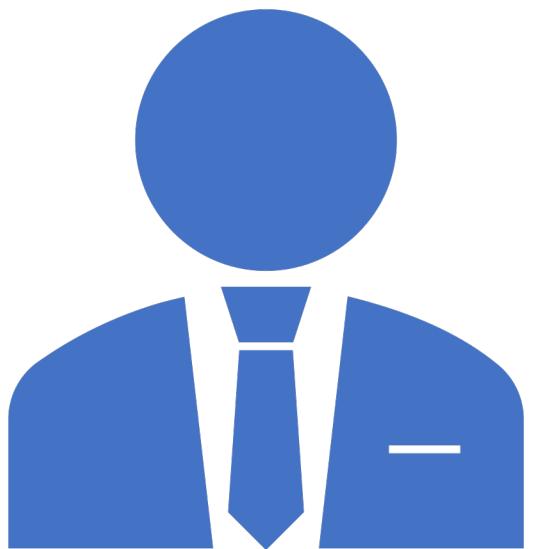
Given Happy Message
Using Reflection When
Proper Should Return
HAPPY Mood

To pass this TC use reflection to invoke
analyseMood Method and show **HAPPY**
mood



Given Happy Message
When Improper Method
Should Throw
MoodAnalysisException

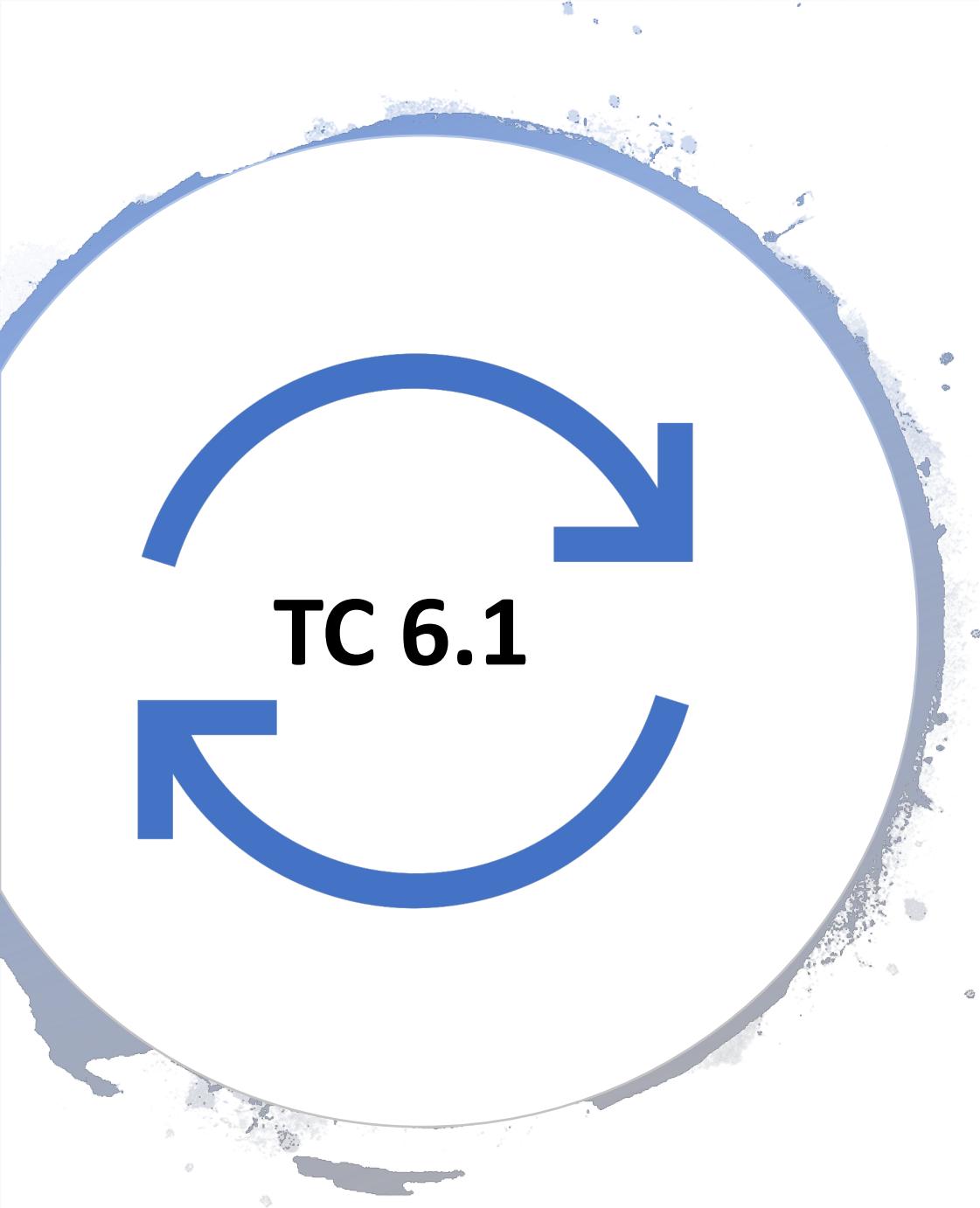
To pass this Test Case pass wrong Method Name, catch the Exception and throw indicating No Such Method Error



UC 6

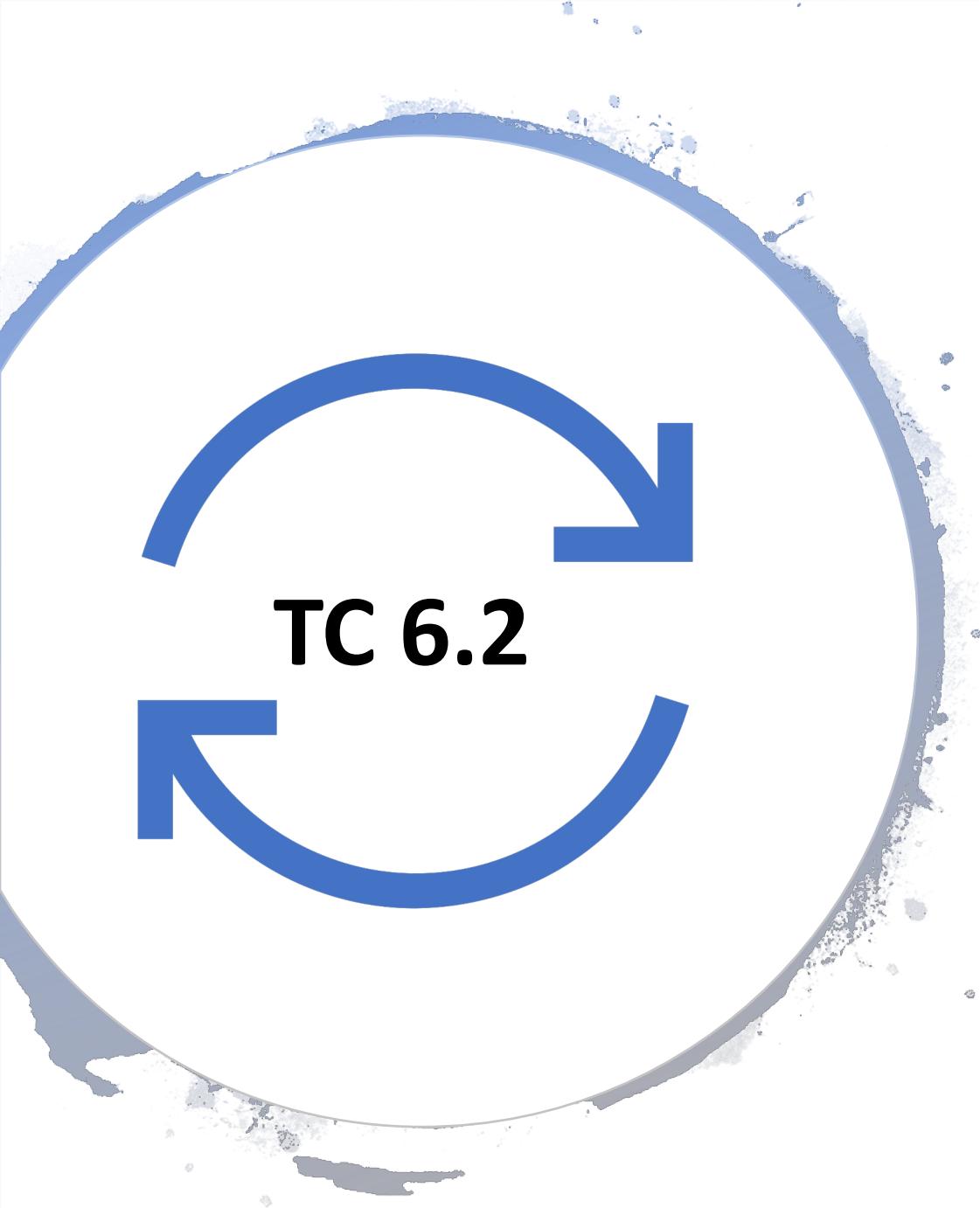
Use Reflection to change mood dynamically

- User Reflector to Modify mood dynamically



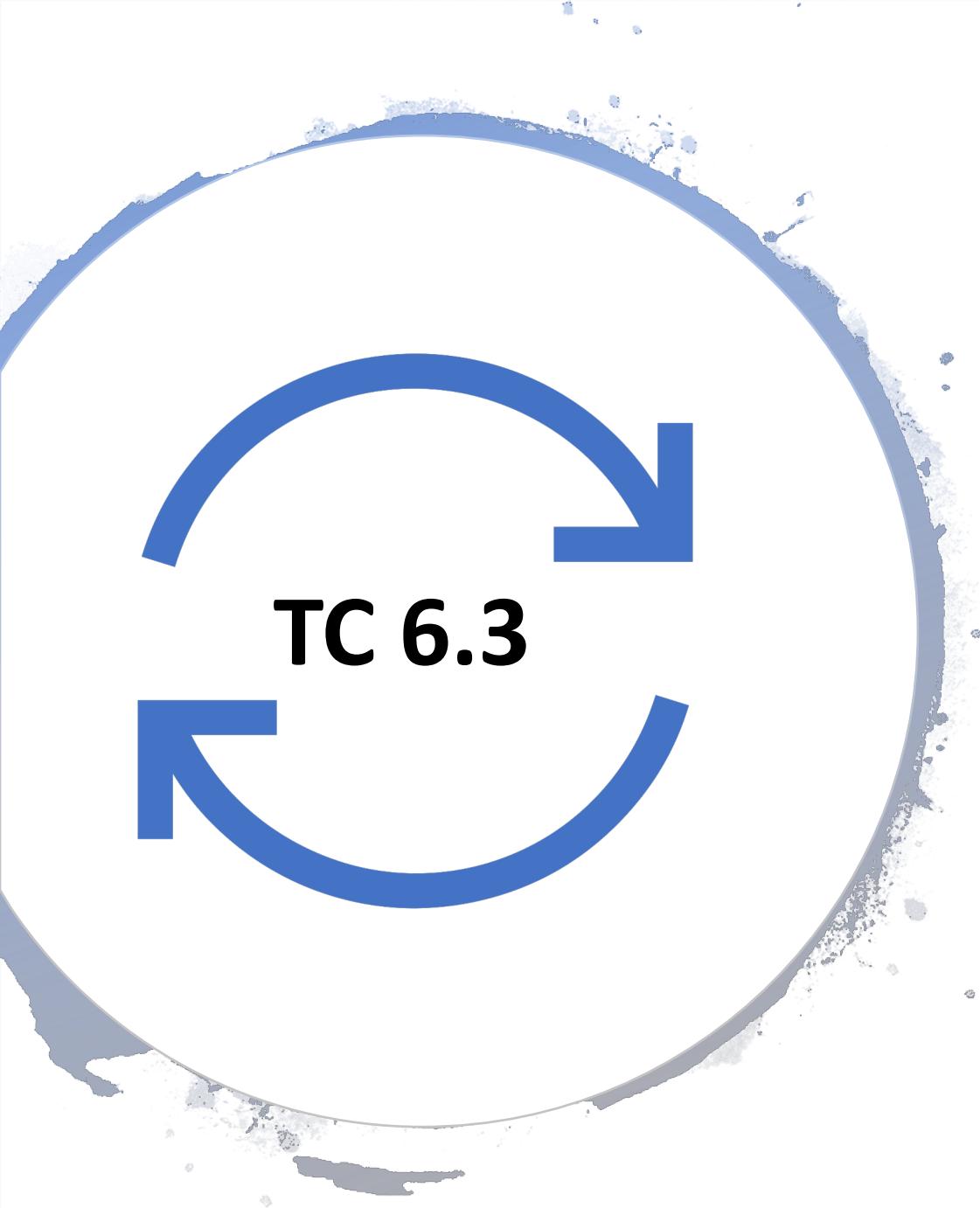
Set Happy Message with
Reflector Should Return
HAPPY

To pass this TC, Use Reflector to Set the Field
Value and Invoke Method using Reflection
and Assert HAPPY Mood



Set Field When Improper Should Throw Exception with No Such Field

To pass this TC, Use Reflector to Set the Value
on improper Field, catch the Exception and
throw indicating No Such Field error



Setting Null Message with Reflector Should Throw Exception

To pass this TC, Use Reflector to Set the Field
Value to null and check Exception



BridgeLabz

Employability Delivered

Thank
You