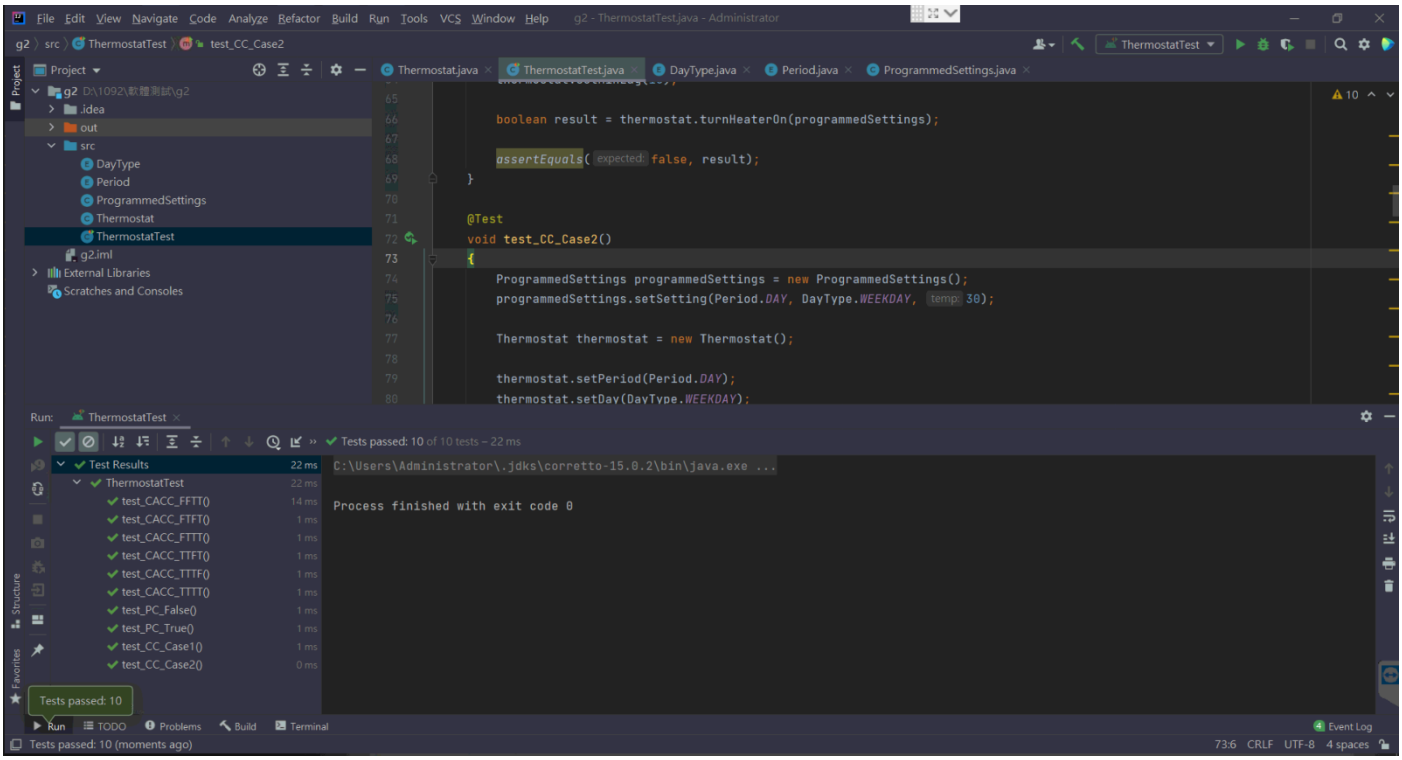
Groupwork 2

Please design tests to satisfy PC (predicate coverage), CC(clause coverage), and CACC(correlated active clause coverage)　for Themostat class and your proposed project (if TDD with no implementation, design tests on the requirements or specifications)

ThemostatTest.java 執行結果：



1. Complete and run the tests to satisfy PC for the Thermostat class and your project.

- Thermostat

Predicate	curTemp < dTemp - thresholdDiff	override	curTemp < overTemp - thresholdDiff	timeSinceLastRun > minLag
	A	B	C	D
True	T	T	T	T
	curTemp = 20 dTemp = 30 thresholdDiff = 5	override = True	curTemp = 20 overTemp = 30 thresholdDiff = 5	timeSinceLastRun = 20 minLag = 10
False	F	T	F	F
	curTemp = 40 dTemp = 30 thresholdDiff = 5	override = True	curTemp = 40 overTemp = 30 thresholdDiff = 5	timeSinceLastRun = 5 minLag = 10

Predicate True:

curTemp = 20

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 30

timeSinceLastRun = 20

minLag = 10

Predicate False:

curTemp = 40

dTemp = 35

thresholdDiff = 5

override = True

overTemp = 40

timeSinceLastRun = 5

minLag = 10

- muParser.cpp

Predicate	iEnd == (stringstream_ type::pos_type) - 1	mu::TypeInfo<mu::value_ type>::IsInteger()	fEpsilon == 0
	A	B	C
True	T	T	T
	iEnd = 2 stringstream_type::pos_ty pe = 1	mu::TypeInfo<mu::value_ type>::IsInteger() = True	fEpsilon = 0
False	F	F	F
	iEnd = 3 stringstream_type::pos_ty pe = 1	mu::TypeInfo<mu::value_ type>::IsInteger() = False	fEpsilon = 1

Predicate True:

iEnd = 2

stringstream_type::pos_type = 1

mu::TypeInfo<mu::value_ type>::IsInteger() = True

fEpsilon = 0

Predicate False:

iEnd = 3

stringstream_type::pos_type = 1

mu::TypeInfo<mu::value_ type>::IsInteger() = False

fEpsilon = 1

2. Complete and run the tests to satisfy CC for the Thermostat class and your project.

- Thermostat

Predicate	curTemp < dTemp - thresholdDiff	override	curTemp < overTemp - thresholdDiff	timeSinceLastRun > minLag

	A	B	C	D
Case1	T	F	T	F
	curTemp = 20 dTemp = 30 thresholdDiff = 5	override = False	curTemp = 20 overTemp = 30 thresholdDiff = 5	timeSinceLastRun = 5 minLag = 10
Case2	F	T	F	T
	curTemp = 40 dTemp = 30 thresholdDiff = 5	override = True	curTemp = 40 overTemp = 30 thresholdDiff = 5	timeSinceLastRun = 20 minLag = 10

Case1:

curTemp = 20

dTemp = 30

thresholdDiff = 5

override = False

overTemp = 30

timeSinceLastRun = 5

minLag = 10

Case2:

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 40

timeSinceLastRun = 20

minLag = 10

- muParser.cpp

Predicate	iEnd == (stringstream_type::pos_type) - 1	mu::TypeInfo<mu::value_type>::IsInteger()	fEpsilon == 0
	A	B	C
True	T	F	T
	iEnd = 2 stringstream_type::pos_type = 1	mu::TypeInfo<mu::value_type>::IsInteger() = False	fEpsilon = 0
False	F	T	F
	iEnd = 3 stringstream_type::pos_type = 1	mu::TypeInfo<mu::value_type>::IsInteger() = True	fEpsilon = 1

Case1:

iEnd = 2

stringstream_type::pos_type = 1

mu::TypeInfo<mu::value_ type>::IsInteger() = False
fEpsilon = 0

Case2:
iEnd = 3
stringstream_type::pos_type = 1
mu::TypeInfo<mu::value_ type>::IsInteger() = True
fEpsilon = 1

3. Complete and run the tests to satisfy CACC for the Thermostat class and your project.

- Thermostat

Predicate	curTemp < dTemp - thresholdDiff	override	curTemp < overTemp - thresholdDiff	timeSinceLastRun > minLag
	A	B	C	D
Pa	T	T	F	T
	T	F	T	T
	T	F	F	T
	F	F	T	T
	F	T	F	T
	F	F	F	T
Pb	F	T	T	T
	F	F	T	T
Pc	F	T	T	T
	F	T	F	T
Pd	T	T	T	T
	T	T	F	T
	T	F	T	T
	T	F	F	T
	F	T	T	T
	T	T	T	F
	T	T	F	F
	T	F	T	F
	T	F	F	F
	F	T	T	F

選擇上述紅線的集合，2重覆，共6筆測資。

Pa	T	T	F	T

curTemp = 20

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 40

timeSinceLastRun = 20

minLag = 10

Pa	F	T	F	T

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 40

timeSinceLastRun = 20

minLag = 10

Pb	F	T	T	T

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 20

timeSinceLastRun = 20

minLag = 10

Pb	F	F	T	T

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = False

overTemp = 20

timeSinceLastRun = 20

minLag = 10

Pc	F	T	T	T

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 20

timeSinceLastRun = 20

minLag = 10

Pc	F	T	T	T

curTemp = 40

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 20

timeSinceLastRun = 20

minLag = 10

Pd	T	T	T	T

curTemp = 20

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 20

timeSinceLastRun = 20

minLag = 10

Pd	T	T	T	F

curTemp = 20

dTemp = 30

thresholdDiff = 5

override = True

overTemp = 20

timeSinceLastRun = 5

minLag = 10

- muParser.cpp

	iEnd == (stringstream_ type::pos_type) - 1	mu::TypeInfo<mu::value_ type>::IsInteger()	fEpsilon == 0
	A	B	C
Pa	T	T	T
	F	T	T
Pb	T	T	T
	T	F	T
Pc	T	T	T
	T	T	F

(T , T , T)皆重覆。共 4 筆測資。

Pa,Pb,Pc	T	T	T

iEnd = 2

stringstream_type::pos_type = 3

mu::TypeInfo<mu::value_ type>::IsInteger() = True

fEpsilon = 0

Pa	F	T	T

iEnd = 3

stringstream_type::pos_type = 3

mu::TypeInfo<mu::value_ type>::IsInteger() = True

fEpsilon = 0

Pa	T	F	T

iEnd = 3

stringstream_type::pos_type = 3

mu::TypeInfo<mu::value_ type>::IsInteger() = False

fEpsilon = 0

Pa	T	T	F

iEnd = 3

stringstream_type::pos_type = 3

mu::TypeInfo<mu::value_ type>::IsInteger() = False

fEpsilon = 1