sonar

**jenes-2.0-sonarQube
1.0**

2013-10-16

1. jenes-2.0-sonarQube

This chapter presents an overview of the project measures. This dashboard shows the most important measures related to project quality, and it provides a good starting point for identifying problems in source code.

1.1. Dashboard

Lines of code

11,088

33 packages
179 classes
1,089 methods
10.6% duplicated lines

Comments

29.4%

4,622 comment lines

Complexity

2.1

13.1 /class
2,352 decision points

Code Coverage

N/A

0 tests

Test Success

N/A

N/A failures
N/A errors

Rules Compliance

67.4%

Violations

1,823

	Blocker	0
	Critical	44
	Major	823
	Minor	925
	Info	31

LCOM4

N/A

N/A files having LCOM4>1

RFC

N/A
/class

Package tangle index

N/A

N/A cycles

1.2. Hotspots

Most violated rules		
Security - Array is stored directly	28	CRITICAL
Naming - Suspicious equals method name	8	CRITICAL
Equals Hash Code	8	CRITICAL
System Println	238	MAJOR
Visibility Modifier	95	MAJOR

Most violated files	
MersenneTwisterFast	196
DeJongTest	95
TSPCrossover	77
Population	70
BitwiseChromosome	65

Most complex files	
Population	225
GeneticAlgorithm	126
Fitness	108
BitwiseChromosome	91
XLSLogger	85

Most duplicated files	
MersenneTwisterFast	383
KnapsackLoggedProblem	148
KnapsackLoggedProblem	138
KnapsackProblem	102
KnapsackProblem	101

1.3. New issues in the last 30 days

Rule	Clone method must implement Cloneable	
clone() method should be implemented only if implementing Cloneable interface		
File		Line
BitwiseChromosome		687
BooleanChromosome		61

Rule	Boolean Expression Complexity	
La complejidad de la expresión lógica es 4 (máxima permitida es 3).		
File		Line
BitwiseChromosome		598, 609, 674

Rule	Trailing Comment

No usar comentarios de final de línea.	
File	Line
IslandGA	375
BitwiseChromosome	570, 152, 540, 156, 573, 153, 154, 537, 155

Rule	Unused local variable
Avoid unused local variables such as 'il'.	
File	Line
IslandGA	573, 570

Rule	Tabulation characters should not be used
Replace all tab characters in this file by sequences of white-spaces.	
File	Line
AlgorithmException	N/A
BitwiseChromosome	N/A

Rule	Anon Inner Length
El tamaño de la clase interna anónima es 29 líneas (máximas permitidas 20).	
File	Line
IslandGA	209

Rule	Field names should comply with a naming convention
Rename this field name to match the regular expression '^[a-z][a-zA-Z0-9]*$'.	
File	Line
SimpleGA	105
BitwiseChromosome	87, 124, 83

Rule	Local variable and method parameter names should comply with a naming convention
Rename this local variable name to match the regular expression '^[a-z][a-zA-Z0-9]*$'.	
File	Line
BitwiseChromosome	601, 373, 611, 456, 612, 455, 600, 374

Rule	Avoid commented-out lines of code
This block of commented-out lines of code should be removed.	

File	Line
BitwiseChromosome	732, 537, 742, 717, 570, 573, 266, 540, 444, 737

Rule	Constructor Calls Overridable Method
Overridable method 'populateNiches' called during object construction	

File	Line
IslandGA	248, 307

Rule	Methods should not have too many parameters
Method has 8 parameters, which is greater than 7 authorized.	

File	Line
IslandGA	305
SimpleGA	381, 245, 220

Rule	Modifier Order
Modificador 'abstract' desordenado según las sugerencias de la JLS.	

File	Line
BitwiseChromosome	119

Rule	Unused formal parameter
Avoid unused constructor parameters such as 'es'.	

File	Line
SimpleGA	245, 381

Rule	Naming - Suspicious equals method name
The method name and parameter number are suspiciously close to equals(Object)	

File	Line
BitwiseChromosome	468

Rule	Visibility Modifier
La variable 'crowder' debe ser privada y tener métodos de acceso.	
File	**Line**
CrowdingGA	40
BitwiseChromosome	87, 124, 83

Rule	Redundant Modifier
Modificador 'public' redundante.	
File	**Line**
AlgorithmEventListener	73, 65, 57
AlleleSet	65, 41, 56, 49
BitwiseChromosome	402, 530, 316, 563, 496, 243, 646, 597, 286, 214, 234, 333, 629, 224, 516, 354, 487, 468, 660, 440, 688, 205, 254, 505
BooleanChromosome	82, 131, 259, 193

Rule	if/else/for/while/do statements should always use curly braces
Missing curly brace.	
File	**Line**
IslandGA	317

Rule	Equals Hash Code
Definición de 'equals()' sin la correspondiente definición de 'hashCode()'.	
File	**Line**
BitwiseChromosome	468

Rule	Unused Modifier
Avoid modifiers which are implied by the context	
File	**Line**
AlgorithmEventListener	57, 65, 73
AlleleSet	41, 56, 49, 65

1.4. Violations details with priority up to info

CRITICAL violations

Rule	Security - Array is stored directly	
The user-supplied array 'diff' is stored directly.		
File		**Line**
GenericAlleleSet		146
TSPGA		31
TravelSalesmanProblem		39
Fitness		622
Population		955
Function		16
PatternGA		50
TSPGA		40
TravelSalesmanProblem		82, 82
KnapsackGA		48, 48
KnapsackProblem		47, 47
KnapsackLoggedProblem		64, 64
MultiObjectiveProblem		148
PatternGA		75
TSPGA		42
TravelSalesmanProblem		86, 86
KnapsackGA		67, 67
KnapsackProblem		49, 49
KnapsackLoggedProblem		60, 60
AbstractLogger		49

Rule	Naming - Suspicious equals method name	
The method name and parameter number are suspiciously close to equals(Object)		
File		**Line**
BitwiseChromosome		468
BooleanChromosome		274
Chromosome		129
DoubleChromosome		377
IntegerChromosome		312
ObjectChromosome		423
PermutationChromosome		249
Individual		460

Rule	Equals Hash Code	
Definición de 'equals()' sin la correspondiente definición de 'hashCode()'.		
File		**Line**
BitwiseChromosome		468

BooleanChromosome	273
Chromosome	129
DoubleChromosome	377
IntegerChromosome	311
ObjectChromosome	422
PermutationChromosome	249
Individual	459

MAJOR violations

Rule	System Println	
System.out.print is used		
File	**Line**	
DeJongTest	257	
RoyalGA	171	
BooleanProblem	97, 50, 51, 95, 52, 48, 94, 90, 89	
MultiObjectiveProblem	60, 129, 125, 127, 56, 58, 94, 133, 59, 95, 123, 93, 121	
PatternProblem	130, 107, 131, 114, 101, 98, 95, 115, 103, 129, 105, 104, 116, 96, 127, 100	
TravelSalesmanProblem	78, 63, 116, 68, 155, 153, 58, 115, 57, 152, 118, 73, 59, 55	
EntropyProblem	48, 83, 44, 46, 85, 47, 84, 87	
OCProblem	101, 88, 105, 87, 84, 102, 103, 86	
KnapsackProblem	116, 59, 107, 102, 123, 114, 99, 115, 108, 119, 124, 112, 125, 109, 103, 101, 128	
KnapsackLoggedProblem	88, 187, 138, 136, 185, 184, 161, 130, 191, 159, 128, 137, 131	

Rule	Visibility Modifier	
La variable 'body' debe ser privada y tener métodos de acceso.		
File	**Line**	
GeneticAlgorithm	195, 200, 264, 206, 202, 262, 225, 247, 204, 245, 234, 260, 223	
CrowdingGA	40	
BitwiseChromosome	87, 124, 83	
DoubleChromosome	36, 37, 37, 38	

ObjectChromosome	129, 123, 61, 65
PermutationChromosome	38, 42
DeJongTest	33, 32, 35, 37, 34, 36
JENESTest	28, 27, 25, 26
PerformanceStatistics	30, 31, 33, 32
RoyalTest	33
Fitness	609
Population	1485
AbstractStage	53, 51, 55
Dispenser	78
Evaluator	40
Crossover	54, 154
Crowder	45, 43
Mutator	126, 47
Operator	45, 48, 88
Selector	244
DeJongCrowder	72, 69
HeuristicCrossover	35
IntermediateCrossover	33
MultiNicheCrowder	80, 70, 76, 74, 72
RouletteWheelSelector	46, 44, 45
SteadyState	60, 54, 57
TopScaling	40
Function	12, 13, 14
MultiObjectiveProblem	144, 145, 146
EntropyFitness	35, 34
NumericCrossover	49, 44, 52, 46, 47, 50
AbstractLogger	37, 40, 42
MultiThreadRunner	37, 33
Runner	40

Rule	Naming - Suspicious constant field name	
The field name indicates a constant but its modifiers do not		
File		Line
DeJongTest		34, 33, 32, 35, 36
JENESTest		27, 28, 25, 26
RoyalGA		50, 32, 58, 54, 46, 36, 42
Fitness		52, 54
TopScaling		40
BooleanProblem		43, 42, 41
PatternProblem		56, 55, 54, 53
TravelSalesmanProblem		45
EntropyProblem		38, 39, 40

OCProblem	47, 46
KnapsackProblem	37, 38
KnapsackLoggedProblem	47, 46
BooleanProblem	43, 42, 44
CrowdingGAExample	44, 42, 43
NSGA2BooleanProblem	23, 22, 24
PatternProblem	55, 56, 53, 54
TravelSalesmanProblem	47
EntropyFitness	34, 35
EntropyProblem	40, 39, 41
OCProblem	49, 50
KnapsackProblem	39, 40
KnapsackLoggedProblem	47, 46
NumericCrossover	46, 47, 52, 49, 50, 44
IslandGAvsSimpleGA	45, 43, 44
XLSLogger	64, 63

Rule	Static Variable Name
El nombre 'TYPE' debe coincidir con el patrón '^[a-z][a-zA-Z0-9]*$'.	
File	**Line**
JENESTest	28, 26, 25, 27
Fitness	54, 52
TopScaling	40
BooleanProblem	42, 41, 43
PatternProblem	55, 54, 53, 56
TravelSalesmanProblem	45
EntropyProblem	40, 39, 38
OCProblem	46, 47
KnapsackProblem	38, 37
KnapsackLoggedProblem	47, 46
BooleanProblem	44, 43, 42
CrowdingGAExample	43, 42, 44
NSGA2BooleanProblem	24, 23, 22
PatternProblem	56, 55, 54, 53
TravelSalesmanProblem	47
EntropyFitness	35, 34
EntropyProblem	40, 39, 41
OCProblem	49, 50
KnapsackProblem	39, 40
KnapsackLoggedProblem	46, 47
NumericCrossover	50, 49, 44, 46, 52, 47
IslandGAvsSimpleGA	45, 44, 43
XLSLogger	63, 64

Rule	Avoid commented-out lines of code
This block of commented-out lines of code should be removed.	

File	Line
BitwiseChromosome	732, 537, 742, 717, 570, 573, 266, 540, 444, 737
DeJongTest	250
JENESTest	48, 54, 42, 60, 66, 73, 81
PerformanceStatistics	86
RoyalGA	166
RoyalTest	62, 65
TSPCrossover	42
TravelSalesmanProblem	66, 69
Individual	478
Population	1330, 1025, 464
RouletteWheelSelector	133, 109, 158, 174, 137, 142, 165, 184, 187, 172, 140, 149, 151
BooleanProblem	54
OCProblem	90
BooleanProblem	55
MultiObjectiveProblem	83, 89
MersenneTwisterFast	770, 161, 813, 790, 751, 164

Rule	if/else/for/while/do statements should always use curly braces
Missing curly brace.	

File	Line
IslandGA	317
GenericAlleleSet	161, 154, 150, 157, 114
BreakPoint	97
Crowder	143, 106
Operator	75
DeterministicCrowder	144, 136, 107
TopScaling	85, 86
TournamentSelector	85
TwoPointsCrossover	74, 72
BooleanProblem	66, 67
PatternProblem	120
TSPCityCenteredCrossover	132, 90
TSPScrambleMutator	86
IntegerAlleleSet	56, 85
BooleanProblem	68, 67
PatternProblem	121
TSPCityCenteredCrossover	90, 132

TSPScrambleMutator	86
IntegerAlleleSet	56, 85
AbstractLogger	80, 128, 117, 106, 51, 139, 83, 85
CSVLogger	114
MersenneTwisterFast	675, 163

Rule	Parameter Assignment	
No esta permitida la asignación del parámetro 'hs'.		
File		Line
GeneticAlgorithm		444, 476, 446
BooleanChromosome		103, 86
Chromosome		176
DoubleChromosome		102, 232, 234, 204, 119, 202
IntegerChromosome		120, 136
ObjectChromosome		230, 213
PermutationChromosome		175, 193, 126, 128
HeuristicCrossover		75, 77
IntermediateCrossover		74, 76
IntegerAlleleSet		56, 85, 85, 56
XLSLogger		436, 348, 364, 339, 371

1.5. Most violated files by level with priority up to info

BLOCKER violations

File	Violations
No violations	

CRITICAL violations

File	Violations
KnapsackLoggedProblem	2
KnapsackProblem	2
TravelSalesmanProblem	2
ObjectChromosome	2
Individual	2
KnapsackLoggedProblem	2

KnapsackProblem	2
KnapsackGA	2
KnapsackGA	2
TravelSalesmanProblem	2

MAJOR violations

File	Violations
No violations	

MINOR violations

File	Violations
No violations	

INFO violations

File	Violations
No violations	