Appendix Testcases

1 Testcases kotlin

Test name	Metric	File name	Expected value	Expected result
(CboA) CBO for empty class	СВО	a/CboA.kt	CboA.kt	0
(CboB) CBO for class with parent using				
import	СВО	b/CboB.kt	CboB.kt	1
(CboBParent) CBO for class that is		b/CboBParent.	CboBParent.	
parent by import	СВО	kt	kt	1
(CboC) CBO for class with parent using				
fully qualified name	СВО	c/CboC.kt	CboC.kt	1
(CboD) CBO for class with field values				
using fully qualified name	СВО	d/CboD.kt	CboD.kt	1
(CboE) CBO for class with constructor				
calls in method using import and fully				
qualified name	СВО	e/CboE.kt	CboE.kt	1
(CboF) CBO for class with method call				
of static class using import	СВО	f/CboF.kt	CboF.kt	1
(CboH) CBO for class calling extension				
function using import and alias import	СВО	h/CboH.kt	CboH.kt	1
(CboHExtensionFunctions) CBO for			CboHExtensi	
extension functions in file called from		h/CboHExtensi	onFunctions.	
other class	СВО	onFunctions.kt	kt	1
(Cbol) CBO for class with alias import	СВО	i/Cbol.kt	Cbol.kt	1
(CboJ) CBO for class with internal class				
import	СВО	j/CboJ.kt	CboJ.kt	1
(CboOther) CBO for 2 classes in same		other/CboStati	CboStaticCla	
package with 2 usages each	СВО	cClass.kt	ss.kt	4
(CboOther) CBO for 2 classes in same		other/CboSub	CboSubClass.	
package with 2 usages each	СВО	Class.kt	kt	4
(ClocA) CLOC for class	CLOC	ClocA.kt	ClocA	8
(ClocB) CLOC for multiple classes is	0 = 0			
same file	CLOC	ClocB1.kt	ClocB1	3
(ClocB) CLOC for multiple classes is	0_00			
same file	CLOC	ClocB2.kt	ClocB2	2
(ClocB) CLOC for multiple classes is	0_00	0.000	0.000	
same file	CLOC	ClocB3.kt	ClocB3	1
(ClocC) CLOC for extension function in	0_00		0.0000	
file	CLOC	ClocC.kt	ClocC.kt	4
(ClocD) CLOC for class and extension	0200	0.000		-
function in file	CLOC	ClocD.kt	ClocD	2
(ClocD) CLOC for class and extension	0200	3.002	3.002	1 -
function in file	CLOC	ClocD.kt	ClocD.kt	3
	1			
(Sid if Sit for Chipty class	ווט	DIO CAC	Diar	
(DitR) DIT for multiple class in same file				
· · · · · · · · · · · · · · · · · · ·	DIT	DitB1 kt	DitB1	0
(ClocE) CLOC for nested class (DitA) DIT for empty class (DitB) DIT for multiple class in same file inheriting each other	CLOC DIT	ClocE.kt DitA.kt DitB1.kt	ClocE DitA DitB1	5 0

(5::5) 5:: (
(DitB) DIT for multiple class in same file	DIT	5.152 1.1	5.1.53	
inheriting each other	DIT	DitB2.kt	DitB2	1
(DitB) DIT for multiple class in same file	DIT	2112211	21122	
inheriting each other	DIT	DitB3.kt	DitB3	2
(DitC) DIT for class inheriting by fully				
qualified name	DIT	DitC.kt	DitC	2
(DitD) DIT for class inheriting by import	DIT	DitD.kt	DitD	2
(DitE) DIT for class inheriting from class				
not existing in project	DIT	DitE.kt	DitE	1
(DitF) DIT for class inheriting from class				
not existing in project by fully qualified				
name	DIT	DitF.kt	DitF	1
(DitG) DIT for class extending interface	DIT	DitG.kt	DitG	1
(DitH) DIT for class extending interface				
and inheriting from class takes max				
value	DIT	DitH1.kt	DitH1	2
(DitH) DIT for class extending interface				
and inheriting from class takes max				
value	DIT	DitH2.kt	DitH2	3
(DitH) DIT for class extending interface				
and inheriting from class takes max				
value	DIT	DitH3.kt	DitH3	1
(LcamA) LCAM for empty class	LCAM	LcamA.kt	LcamA	0.0
(LcamB) LCAM for class with single field				1.0 - (3.0 /
and reference in primary constructor	LCAM	LcamB.kt	LcamB	4.0)
(LcamB2) LCAM for class with single				•
field and reference in primary				1.0 - (3.0 /
constructor via 'init'	LCAM	LcamB2.kt	LcamB2	4.0)
(LcamB3) LCAM for class with single				•
field and reference in primary				1.0 - (3.0 /
constructor via direct assignment	LCAM	LcamB3.kt	LcamB3	4.0)
(LcamC) LCAM for class with single field				1.0 - (3.0 /
and reference in secondary constructor	LCAM	LcamC.kt	LcamC	4.0)
(LcamD) LCAM for class with multiple	20/			1.0 - (4.0 /
fields referenced in multiple methods	LCAM	LcamD.kt	LcamD	(2 * 4.0))
(LcamE) LCAM for class with single field	LO/ (IVI	Loambine	2001110	(= 1.0))
and method using same field name as				1.0 - (2.0 /
local variable	LCAM	LcamE.kt	LcamE	4.0)
(LcamF) LCAM for class with single field	LOAW	LCGITIL.Kt	Learne	7.0)
and method referencing field with 'this'				1.0 - (3.0 /
keyword	LCAM	LcamF.kt	LcamF	4.0)
(LcamG) LCAM for object with single	LOAIVI	LCGIIII.NL	LCallii	1.0 - (2.0 /
field and method referencing field	LCAM	LcamG.kt	LcamG	, ,
-	LUAIVI	LCailiG.Kt	LCalliG	3.0)
(LcamH) LCAM for file with multiple classes	LCANA	LcamH1 kt	Lcam⊔1	1.0 - (1.0 /
	LCAM	LcamH1.kt	LcamH1	2.0)
(LcamH) LCAM for file with multiple	1000	Leonalia	1.00.00112	1.0 - (1.0 /
classes	LCAM	LcamH2.kt	LcamH2	2.0)
(Lcaml) LCAM for class with method			1	1.0 - (1.0 /
using expression body	LCAM	Lcaml.kt	Lcaml	2.0)
(LcamJ) LCAM for data class with getter				1.0 - (4.0 /
referencing fields	LCAM	LcamJ.kt	LcamJ	(2.0 * 3.0))

(Naca) NOC for amothy class	NOC	NosA let	NocA	
(NocA) NOC for empty class	NOC	NocA.kt	NocA	0
(NocB) NOC for open class with with	NOO	No DA L	No B4	
three subclasses	NOC	NocB1.kt	NocB1	3
(NocB) NOC for open class with with	NOO	No and let	No -D2	
three subclasses	NOC	NocB2.kt	NocB2	0
(NocB) NOC for open class with with	NOO			
three subclasses	NOC	NocB3.kt	NocB3	0
(NocB) NOC for open class with with	NOO			
three subclasses	NOC	NocB4.kt	NocB4	0
(NocC) NOC for classes with multiple	1100			
inheritance	NOC	NocC1.kt	NocC1	1
(NocC) NOC for classes with multiple	NOO			
inheritance	NOC	NocC2.kt	NocC2	2
(NocC) NOC for classes with multiple				
inheritance	NOC	NocC3.kt	NocC3	0
(NocC) NOC for classes with multiple	NGG			
inheritance	NOC	NocC4.kt	NocC4	0
(NocD) NOC for interfaces with multiple		1		
inheritance	NOC	NocD1.kt	NocD1	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	NocD2.kt	NocD2	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	NocD3.kt	NocD3	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	NocD4.kt	NocD4	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	NocD5.kt	NocD5	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	NocE1.kt	NocE1	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	NocE2.kt	NocE2	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	NocE3.kt	NocE3	1
(NocE) NOC for class implementing				
interface interface and extending class	NOC	NocE4.kt	NocE4	0
(NocF) NOC for class extending class in				
different package	NOC	NocF1.kt	NocF1	0
(NocF) NOC for class extending class in				
different package	NOC	NocF2.kt	NocF2	0
(NocF) NOC for class extending class in				
different package	NOC	NocF3.kt	NocF3	0
(NocF) NOC for class extending class in				
different package	NOC	other/NocF.kt	NocF	3
(RfcA) RFC for empty class	RFC	RfcA.kt	RfcA	0
(RfcB) RFC for class with with two				
methods calling its own method	RFC	RfcB.kt	RfcB	2
(RfcC) RFC for class with with a methods calling two different methods				
from other class	RFC	RfcC.kt	RfcC	3

(RfcD) RFC for object with with two				
methods calling same method from				
other class	RFC	RfcD.kt	RfcD	4
(RfcE) RFC for file with two classes	RFC	RfcE1.kt	RfcE1	3
(RfcE) RFC for file with two classes	RFC	RfcE2.kt	RfcE2	2
(RfcF) RFC for file with a class and a	INIO	Mezzike	MCLL	
global method	RFC	RfcF.kt	RfcF	3
(RfcF) RFC for file with a class and a	INIO	Merike	Titlet	
global method	RFC	RfcF.kt	RfcF	2
(RfcG) RFC for class with with a	100	Merike	Titel	
methods calling a method from other				
class from two different local objects	RFC	RfcG.kt	RfcG	3
(RfcH) RFC for class with with a method	100	THEO.RE	11100	
accessing a field from other class	RFC	RfcH.kt	RfcH	1
(WmcA) WMC for empty class	WMC	WmcA.kt	WmcA	1
(WmcB) WMC for class with with two	VVIVIO	VVIIICA.RC	VVIIICA	-
methods	WMC	WmcB.kt	WmcB	3
(WmcC) WMC for class with two	VVIVIC	WITIED.RC	VVIIICB	
secondary secondary constructor and				
primary constructor	WMC	WmcC.kt	WmcC	3
(WmcD) WMC for object with with two	VVIVIO	WITICC.RC	VVIIICC	
methods	WMC	WmcD.kt	WmcD	2
(WmcE) WMC for file with two classes	WMC	WmcE1.kt	WmcE1	3
(WmcE) WMC for file with two classes	WMC	WmcE2.kt	WmcE2	2
(WmcF) WMC for file with two classes	VVIVIC	VVIIICLZ.Kt	VVIIICLZ	
two global methods	WMC	WmcF.kt	WmcF	3
(WmcF) WMC for file with a class and	VVIVIC	WITICI.KC	VVIIICI	
two global methods	WMC	WmcF.kt	WmcF	2
(WmcG) WMC for file with complexity	VVIVIC	WITTET.RC	VVIIICI	
of 'if'	WMC	WmcG.kt	WmcG	6
(WmcH) WMC for file with complexity	VVIVIC	WIIICO.Kt	VVIIICO	0
of 'for'	WMC	WmcH.kt	WmcH	6
(Wmcl) WMC for file with complexity of	VVIVIC	VVIIICI1.KC	VVIIICII	
'while'	WMC	Wmcl.kt	Wmcl	6
(WmcJ) WMC for file with complexity of	VVIVIC	VVIIICI.RC	VVIIICI	
'switch'	WMC	WmcJ.kt	WmcJ	8
(WmcK) WMC for file with complexity	VVIVIC	VVIIICJ.NL	VVIIICJ	3
of 'catch'	WMC	WmcK.kt	WmcK	6
(WmcL) WMC for file with complexity	VVIVIC	VVIIICN.KL	VVIIICK	0
of 'throw'	WMC	WmcL.kt	WmcL	6
(WmcM) WMC for file with complexity	VVIVIC	VVIIICL.KL	VVIIICL	0
of 'and operator' and 'or operator'	\\/\\	WmcM.kt	WmcM	8
or and operator and or operator	WMC	VVIIICIVI.KL	VVIIICIVI	٥

2 Testcases dart

Test name	Metric	File name	Expected value	Expected result
(CboA) CBO for empty class	СВО	a/cbo_a.dart	cbo_a.dart	0
(CboB) CBO for class with parent using				
absolute path import	CBO	b/cbo_b.dart	cbo_b.dart	1
(CboBParent) CBO for class that is		b/cbo_b_pare	cbo_b_paren	
parent by absolute path import	CBO	nt.dart	t.dart	1
(CboC) CBO for class with parent using				
relative path import	CBO	c/cbo_c.dart	cbo_c.dart	1
(CboCParent) CBO for class that is		c/cbo_c_paren	cbo_c_paren	
parent using relative path import	СВО	t.dart	t.dart	1
(CboD) CBO for class with field values				
using alias	CBO	d/cbo_d.dart	cbo_d.dart	1
(CboE) CBO for class with constructor				
calls in method using import and alias				
name import	СВО	e/cbo_e.dart	cbo_e.dart	1
(CboF) CBO for class with method call				
of static class using import	СВО	f/cbo_f.dart	cbo_f.dart	1
(CboG) CBO for class with method call				
of static class using import and fully				
qualified name	СВО	g/cbo_g.dart	cbo_g.dart	2
(CboGStatic) CBO for static class which		g/cbo g static	cbo g static.	
is called by other class by alias name	СВО	.dart	dart	1
(Cbol) CBO for class with alias import	СВО	i/cbo_i.dart	cbo_i.dart	1
(CboOther) CBO for 2 classes in same		other/cbo_stat	cbo_static_cl	
package with 2 usages each	СВО	ic_class.dart	ass.dart	3
(CboOther) CBO for 2 classes in same		other/cbo sub	cbo_sub_clas	
package with 2 usages each	СВО	_class.dart	s.dart	3
(ClocA) CLOC for class	CLOC	cloc_a.dart	ClocA	8
(ClocB) CLOC for multiple classes is		_		
same file	CLOC	cloc_b.dart	ClocB1	3
(ClocB) CLOC for multiple classes is		_		
same file	CLOC	cloc_b.dart	ClocB2	2
(ClocB) CLOC for multiple classes is		_		
same file	CLOC	cloc_b.dart	ClocB3	1
(ClocC) CLOC for global function in file	CLOC	cloc c.dart	cloc c.dart	4
(DitA) DIT for empty class	DIT	dit_a.dart	DitA	0
(DitB) DIT for multiple class in same file		_		
inheriting each other	DIT	dit_b.dart	DitB1	0
(DitB) DIT for multiple class in same file				
inheriting each other	DIT	dit_b.dart	DitB2	1
(DitB) DIT for multiple class in same file				
inheriting each other	DIT	dit_b.dart	DitB3	2
(DitD) DIT for class inheriting by import	DIT	dit_d.dart	DitD	2
(DitE) DIT for class inheriting from class			-	
not existing in project	DIT	dit_e.dart	DitE	1
(DitF) DIT for class inheriting from class				_
not existing in project by fully qualified				
name	DIT	dit_f.dart	DitF	1
· · · ·			1	

(DitG) DIT for class extending interface	DIT	dit_g.dart	DitG	1
(DitH) DIT for class extending interface	D11	are_Braare	2.00	1
and inheriting from class takes max				
value	DIT	dit h.dart	DitH1	2
(DitH) DIT for class extending interface	DIT	art_maart	DICITE	2
and inheriting from class takes max				
value	DIT	dit h.dart	DitH2	3
(DitH) DIT for class extending interface	ווט	uit_ii.uait	DICITZ	3
and inheriting from class takes max				
value	DIT	dit b dart	DitH3	1
		dit_h.dart		
(LcamA) LCAM for empty class	LCAM	lcam_a.dart	LcamA	0.0
(LcamB) LCAM for class with single field		land to the stand		1.0 - (2.0 /
and reference in constructor	LCAM	lcam_b.dart	LcamB	3.0)
(LcamB2) LCAM for class with single				10 1001
field and reference in constructor as				1.0 - (2.0 /
named parameter	LCAM	lcam_b2.dart	LcamB2	3.0)
(LcamC) LCAM for class with single field		1		1.0 - (3.0 /
and reference in secondary constructor	LCAM	lcam_c.dart	LcamC	4.0)
(LcamD) LCAM for class with multiple				1.0 - (4.0 /
fields referenced in multiple methods	LCAM	lcam_d.dart	LcamD	(2 * 4.0))
(LcamE) LCAM for class with single field				
and method using same field name as				1.0 - (2.0 /
local variable	LCAM	lcam_e.dart	LcamE	3.0)
(LcamF) LCAM for class with single field				
and method referencing field with 'this'				1.0 - (2.0 /
keyword	LCAM	lcam_f.dart	LcamF	2.0)
(LcamG) LCAM for object with single				1.0 - (1.0 /
field and method referencing field	LCAM	lcam_g.dart	LcamG	1.0)
(LcamH) LCAM for file with multiple				1.0 - (1.0 /
classes	LCAM	lcam_h.dart	LcamH1	2.0)
(LcamH) LCAM for file with multiple		_		1.0 - (1.0 /
classes	LCAM	lcam h.dart	LcamH2	2.0)
(Lcaml) LCAM for class with method		_		1.0 - (1.0 /
using expression body	LCAM	lcam_i.dart	Lcaml	2.0)
(LcamJ) LCAM for data class with getter				1.0 - (4.0 /
referencing fields	LCAM	lcam_j.dart	LcamJ	(2.0 * 3.0))
(NocA) NOC for empty class	NOC	noc a.dart	NocA	0
(NocB) NOC for open class with with	1100	1100_0.0011	1100/1	
three subclasses	NOC	noc_b.dart	NocB1	3
(NocB) NOC for open class with with	1100	noc_b.dart	INOCDI	
three subclasses	NOC	noc b.dart	NocB2	0
	NOC	noc_b.uart	INUCDZ	U
(NocB) NOC for open class with with	NOC	noo b de	No and	
three subclasses	NOC	noc_b.dart	NocB3	0
(NocB) NOC for open class with with	NOO	and he does	No of 4	
three subclasses	NOC	noc_b.dart	NocB4	0
(NocC) NOC for classes with multiple				
inheritance	NOC	noc_c.dart	NocC1	1
(NocC) NOC for classes with multiple				
inheritance	NOC	noc_c.dart	NocC2	2
(NocC) NOC for classes with multiple				
inheritance	NOC	noc_c.dart	NocC3	0

(Nacc) NGC for algrees with resulting				
(NocC) NOC for classes with multiple	NOO		N C4	
inheritance	NOC	noc_c.dart	NocC4	0
(NocD) NOC for interfaces with multiple	NOO		. 54	
inheritance	NOC	noc_d.dart	NocD1	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	noc_d.dart	NocD2	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	noc_d.dart	NocD3	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	noc_d.dart	NocD4	0
(NocD) NOC for interfaces with multiple				
inheritance	NOC	noc_d.dart	NocD5	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	noc_e.dart	NocE1	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	noc_e.dart	NocE2	0
(NocE) NOC for class implementing				
interface interface and extending class	NOC	noc_e.dart	NocE3	1
(NocE) NOC for class implementing				
interface interface and extending class	NOC	noc_e.dart	NocE4	0
(NocF) NOC for class extending class in				
different package using relative path				
import	NOC	noc_f.dart	NocF1	0
(NocF) NOC for class extending class in				
different package using relative path				
import	NOC	noc_f.dart	NocF2	0
(NocF) NOC for class extending class in				
different package using relative path				
import	NOC	noc_f.dart	NocFParent	2
(NocG) NOC for class extending class				
which exists in same file and imported				
file	NOC	noc_g.dart	NocG	0
(NocG) NOC for class extending class				
which exists in same file and imported				
file	NOC	noc_g.dart	NocGParent	1
(NocG) NOC for class extending class				
which exists in same file and imported				
file	NOC	noc_g.dart	NocGParent	0
(NocH) NOC for class extending class in				
different package using package import	NOC	noc_h.dart	NocH	0
(NocH) NOC for class extending class in		_		
different package using package import	NOC	noc_h.dart	NocHParent	1
(RfcA) RFC for empty class	RFC	rfc a.dart	RfcA	0
(RfcB) RFC for class with with two				
methods calling its own method	RFC	rfc_b.dart	RfcB	2
(RfcC) RFC for class with with a				
methods calling two different methods				
from other class	RFC	rfc_c.dart	RfcC	3
(RfcD) RFC for object with with two				-
methods calling same method from				
other class	RFC	rfc_d.dart	RfcD	4
22. 0.000	1 0	1 4.4411	155	<u> </u>

(RfcE) RFC for file with two classes	RFC	rfc_e.dart	RfcE1	3
(RfcE) RFC for file with two classes	RFC	rfc_e.dart	RfcE2	2
(RfcF) RFC for file with a class and a				
global method	RFC	rfc_f.dart	RfcF	3
(RfcF) RFC for file with a class and a				
global method	RFC	rfc_f.dart	rfc_f.dart	2
(RfcG) RFC for class with with a				
methods calling a method from other				
class from two different local objects	RFC	rfc_g.dart	RfcG	3
(RfcH) RFC for class with with a method				
accessing a field from other class	RFC	rfc_h.dart	RfcH	1
(WmcA) WMC for empty class	WMC	wmc_a.dart	WmcA	1
(WmcB) WMC for class with with two				
methods	WMC	wmc_b.dart	WmcB	3
(WmcC) WMC for class with three				
secondary secondary constructor and				
primary constructor	WMC	wmc_c.dart	WmcC	4
(WmcD) WMC for object with with two				
methods	WMC	wmc_d.dart	WmcD	2
(WmcE) WMC for file with two classes	WMC	wmc_e.dart	WmcE1	3
(WmcE) WMC for file with two classes	WMC	wmc_e.dart	WmcE2	2
(WmcF) WMC for file with a class and				
two global methods	WMC	wmc_f.dart	WmcF	3
(WmcF) WMC for file with a class and				
two global methods	WMC	wmc_f.dart	wmc_f.dart	2
(WmcG) WMC for file with complexity				
of 'if'	WMC	wmc_g.dart	WmcG	6
(WmcH) WMC for file with complexity				
of 'for'	WMC	wmc_h.dart	WmcH	6
(WmcI) WMC for file with complexity of				
'while'	WMC	wmc_i.dart	Wmcl	6
(WmcJ) WMC for file with complexity of				
'switch'	WMC	wmc_j.dart	WmcJ	8
(WmcK) WMC for file with complexity				
of 'catch'	WMC	wmc_k.dart	WmcK	6
(WmcL) WMC for file with complexity				
of 'throw'	WMC	wmc_l.dart	WmcL	6
(WmcM) WMC for file with complexity				
of 'and operator' and 'or operator'	WMC	wmc_m.dart	WmcM	8
(WmcN) WMC for file with complexity				
of 'inline if statement'	WMC	wmc_n.dart	WmcN	6