

# A Bounded Verification Tool for Java

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# Introduction



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# Chapter 1

## CProver

### 1.1 Properties

array bounds	test
pointer	test
division by zero	test
arithmetic over- and underflow	test
shift greater than bit-width	test
floating-point for +/-Inf	test
floating-point for NaN	test
user assertions	test





## Chapter 2

# Translation of Java to C

### 2.1 Primitive data types

Table 2.1: Equivalence of primitive Java data types.

Type	Description	C equivalent
boolean	true or false	_Bool
char	16-bit Unicode value	
byte	8-bit signed integral value	__int8
short	16-bit signed integral value	__int16
int	32-bit signed integral value	__int32
long	64-bit integral value	__int64
float	IEEE 754 64-bit floating point value	float
double	IEEE 754 32-bit floating point value	double



# Bibliography