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**CB.EN.U4CSE19453**

**Main File:**

**import** org.antlr.v4.runtime.~~ANTLRInputStream~~;

**import** org.antlr.v4.runtime.CommonTokenStream;

@SuppressWarnings("deprecation")

**public** **class** main {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

**try** {

~~ANTLRInputStream~~ input = **new** ~~ANTLRInputStream~~("- 101010");

expressionLexer lexer = **new** expressionLexer(input);

CommonTokenStream tokens = **new** CommonTokenStream(lexer);

expressionParser parser = **new** expressionParser(tokens);

System.***out***.println(parser.start()); // print the value

} **catch** (Exception e) {

System.***out***.println(e);

}

}

}

**Parser:**

**grammar** expression;

start **returns** [int value]

: n = num { $value = $n.value ; System.out.println(**"Integer: "**+$value); } ;

num **returns** [int value]

: s = sign l = list[0] { $value = $s.s\_flag \* $l.value ; } ;

sign **returns** [int s\_flag]

: *PLUS* { $s\_flag = 1 ; }

| *MINUS* { $s\_flag = -1 ;} ;

list[int position] **returns** [int value]

: b = bit[$position] lp = inh[$position+1] { $value = $b.value + $lp.value; } ;

inh[int position] **returns** [int value]

: b = bit[$position] l = inh[$position+1] { $value = $l.value + $b.value ; }

| { $value = 0; } ;

bit[int position] **returns** [int value]

: *ZERO* { $value = 0 ; }

| *ONE* { $value= (**int**) Math.pow(2,$position); } ;

*ZERO* : '0' ;

*ONE* : '1' ;

*MINUSONE*: '-1' ;

*PLUS* : '+' ;

*MINUS* : '-' ;

*WS* : [ \r\n\t] + **->** skip ;