R1. <Rat22F> ::= <Opt Function Definitions> $ <Opt Declaration List> <Statement List> $
R2. <Opt Function Definitions> ::= <Function Definitions> | <Empty>
R3.
<Function Definitions> ::= <Function> < Function Definitions Prime>
<Function Definitions Prime> ::= <Function Definitions> | <Empty>

R4. <Function> ::= function <Identifier> (<Opt Parameter List>) <Opt Declaration List> <Body>
R5. <Opt Parameter List> ::= <Parameter List> | <Empty>
R6.
<Parameter List> ::= <Parameter> <Parameter List Prime>
<Parameter List Prime> ::= , <Parameter List> | <Empty>

R7. <Parameter> ::= <IDs > <Qualifier>
R8. <Qualifier> ::= integer | boolean | real
R9. <Body> ::= { < Statement List> }
R10. <Opt Declaration List> ::= <Declaration List> | <Empty>
R11.
<Declaration List> := <Declaration> ; <Declaration List Prime>
<Declaration List Prime> := <Declaration List> | <Empty>
R12. <Declaration> ::= <Qualifier > <IDs>
R13.
<IDs> ::= <Identifier> <IDs Prime>
<IDs Prime> ::= , <IDs> | <Empty>

R14.
<Statement List> ::= <Statement> <Statement List Prime>
<Statement List Prime> ::= <Statement List> | <Empty>
R15. <Statement> ::= <Compound> | <Assign> | <If> | <Return> | <Print> | <Scan> | <While>
R16. <Compound> ::= { <Statement List> }
R17. <Assign> ::= <Identifier> = <Expression> ;
R18.
<If> ::= if (<Condition>) <Statement> <If Prime>
<If Prime> ::= endif | else <Statement> endif

R19.
<Return> ::= return <Return Prime>
<Return Prime> ::= ; | <Expression> ;

R21. <Print> ::= put (<Expression>);

R21. <Scan> ::= get (<IDs>);
R22. <While> ::= while (<Condition>) <Statement>
R23. <Condition> ::= <Expression> <Relop> <Expression>
R24. <Relop> ::= == | != | > | < | <= | =>
R25.
<Expression> ::= <Term> <Expression Prime>
<Expression Prime> ::= + <Term> <Expression Prime> | - <Term> <Expression Prime> | <Empty>

R26.

<Term> ::= <Factor> <Term Prime>
<Term Prime> ::= * <Factor> <Term Prime> | / <Factor> <Term Prime> | <Empty>
R27. <Factor> ::= - <Primary> | <Primary>
R28.
 <Primary> ::= <Identifier> <Primary Prime> | <Integer> | (<Expression>) | <Real> | true | false
<Primary Prime> ::= [<IDs>] | <Empty>
R29. <Empty> ::=

Note: <Identifier>, <Integer>, <Real> are token types as defined in section (1) above