1.加法溢出(unit256 c=a+b,参数) addoverflow

//expressionStatement[expression[text()="="] and expression/expression[1]/variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

[not(ancestor::libraryDefinition/identifier[matches(text()[1],"Math")])]

[not(ancestor::contractDefinition/identifier[matches(text()[1],"Math")])]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[1]/variableDeclaration/identifier)]]

[expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) and text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]/expression/primaryExpression/identifier)]]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[1]/variableDeclaration/identifier)]]

[expression//primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]])

)]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or expression[2]//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or

expression[1]//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

2.查询 uint256 c;c=a+b;参数 addoverflow

//expressionStatement[expression[text()="="]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

[not(expression/expression[2]/expression//primaryExpression/identifier[text()[1]=

(ancestor:: expressionStatement/expression/expression[1]/primaryExpression/identifier)])]

[not(ancestor::functionDefinition/identifier[text()[1]=(ancestor::contractDefinition/identifier)])]

[not(ancestor::functionDefinition[text()[1]= "constructor"])]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[1]/primaryExpression/identifier)]]

[expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) and text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]/expression/primaryExpression/identifier)]]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[1]/primaryExpression/identifier)]]

[expression//primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]])

)]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or expression[2]//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or

expression[1]//primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]//expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

3.查询uint256 c; c=c+b,参数，addoverflow2

//expressionStatement[expression[text()="="]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/preceding-sibling::expression/primaryExpression/identifier)]

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression/plusminusOperator/plusOperator]/expression[2]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

4.查询 balances[\_to] = balances[\_to]+\_value;参数 addoverflow2

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|uint256")]]/identifier)]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

5.查询 balances[msg.sender] = balances[msg.sender]+ \_value;参数 addoverflow2

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

6.查询allowed[\_to][msg.sender]=allowed[\_to][msg.sender]+\_value;参数 addoverflow2

//expressionStatement[expression[text()="="]]

[expression[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression[2]/plusminusOperator/plusOperator

and expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[2]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression/primaryExpression/identifier)]

and expression[2]/expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

7.查询uint256 c; c=c+ newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement[expression[text()="="]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/preceding-sibling::expression/primaryExpression/identifier)]

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

8.查询 balances[\_to] = balances[\_to]+ newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|uint256")]]/identifier)]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

9.查询 balances[msg.sender] = balances[msg.sender]+ newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

10查询allowed[\_to][msg.sender]=allowed[\_to][msg.sender]+ newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/expression[2]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

11.查询uint256 c; c=c+ newTokens,uint newTokens = \_value \* PRICE; 参数249.sol,25-36同

//expressionStatement[expression[text()="="]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/preceding-sibling::expression/primaryExpression/identifier)]

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

12.查询 balances[\_to] = balances[\_to]+ newTokens

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/expression[1]/primaryExpression/identifier) and text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/expression[2]/primaryExpression/identifier) and (text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|uint256")]]/identifier))]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/expression[1]/primaryExpression/identifier) and text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression/expression[2]/primaryExpression/identifier) and (text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|uint256")]]/identifier))]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)]

)]])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

13.查询 balances[msg.sender] = balances[msg.sender]+ newTokens

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/expression[2]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

14查询allowed[\_to][msg.sender]=allowed[\_to][msg.sender]+ newTokens

//expressionStatement[expression[text()="="]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[2]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/expression[2]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression/expression[2]/expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression/expression[2][plusminusOperator/plusOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

15. 查询类似amount += mintedAmount;参数 mintAny

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

16. 查询balanceOf[target] += mintedAmount; mintAny

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[not(ancestor::functionDefinition/identifier[text()[1] = "transfer" or text()[1] = "transferFrom"])]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

17.查询balanceOf[msg.sender] += mintedAmount; mintAny

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

18. 查询allowance[msg.sender][target] += mintedAmount;

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

19. 查询类似amount += newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[1]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

20. 查询balanceOf[target] += newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

21.查询balanceOf[msg.sender] += newTokens,非参数,uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

22. 查询allowance[msg.sender][target] += newTokens,非参数，uint newTokens = msg.value \* PRICE;addoverflow17

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]]

]]

[(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]]

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::contractPartDefinition/(functionDefinition|functionFallBackDefinition)//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

23. 查询类似amount += newTokens,

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[1]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="] [expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

24. 查询balanceOf[target] += newTokens

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

25.查询balanceOf[msg.sender] += newTokens

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]/identifier)]

and expression/expression[2]/environmentalVariable[text()="msg.sender"]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/primaryExpression/identifier)]

and expression[2]/environmentalVariable[text()="msg.sender"])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2]/environmentalVariable[text()="msg.sender"]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

26. 查询allowance[msg.sender][target] += newTokens

//expressionStatement

[expression[lvalueOperator/plusLvalueOperator

and expression[2]/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][environmentalVariable[text()="msg.sender"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)]]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/preceding-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression[text()[1]="[" and text()[2]="]"]

and expression/expression[1][text()[1]="[" and text()[2]="]"]

and expression/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/mappingSt[typeName[1]/elementaryTypeName[matches(text()[1],"address")] and typeName[2]/elementaryTypeName[matches(text()[1],"uint|int")]]]]/identifier)]

and expression/expression[1]/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression/expression[2][primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"address")]]/identifier)] or environmentalVariable[text()="msg.sender"]]

]]

[expression[1][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)] or (expression[1]/expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[2][primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/parent::\*/following-sibling::expression/expression/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]])]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1][text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1] [text()[1]="[" and text()[2]="]"]

and expression[1]/expression[1]/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[1]/primaryExpression/identifier)]

and expression[1]/expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and expression[1]/expression[2][primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[lvalueOperator/plusLvalueOperator]/expression[1]/expression[2]/primaryExpression/identifier)] or environmentalVariable[text()="msg.sender"]]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

27. overmint require(totalSupply + \_value <= tokenLimit);(状态变量包括定义为常量的) 变量和常量,没有考虑this.banlance Addoverflow7

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

28. require(tokenLimit>= totalSupply + \_value);(状态变量包括定义为常量的) 变量和常量,没有考虑this.banlance Addoverflow8

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

29.综合查询require( totalSupply + \_value <= this.balance);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2][matches(text()[1],"^.balance$")]

and expression/expression[2]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

30综合查询require(this.balance >= totalSupply + \_value);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1][matches(text()[1],"^.balance$")]

and expression/expression[1]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

)]

31.require(presaleSoldTokens + newTokens <= PRESALE);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

32. require(PRESALE\_TOKEN\_SUPPLY\_LIMIT>=presaleSoldTokens+newTokens);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

33.综合查询require( totalSupply + token <= this.balance);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2][matches(text()[1],"^.balance$")]

and expression/expression[2]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

34综合查询require(this.balance >= totalSupply + token);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1][matches(text()[1],"^.balance$")]

and expression/expression[1]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]]/expression[1]/(variableDeclaration|primaryExpression)/identifier)]]

)]

35.非参数uint newTokens = msg.value \* PRESALE\_PRICE;require(presaleSoldTokens + newTokens <= PRESALE\_TOKEN\_SUPPLY\_LIMIT);overbuy Muloverflow5/910

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

]]

[parent::\*/parent::\*/parent::\*/preceding-sibling::statement//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

36. Muloverflow5/910, overbuy非参数uint newTokens = msg.value \* PRESALE\_PRICE;

require(PRESALE\_TOKEN\_SUPPLY\_LIMIT>=presaleSoldTokens+newTokens;

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

]]

[parent::\*/parent::\*/parent::\*/preceding-sibling::statement//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

37.非参数uint newTokens = msg.value \* PRESALE\_PRICE;require(presaleSoldTokens + newTokens <= this.balance); Muloverflow37

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = "<="]

and expression/expression[1]/plusminusOperator/plusOperator

and expression/expression[2][matches(text()[1],"^.balance$")]

and expression/expression[2]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[1]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

]]

[parent::\*/parent::\*/parent::\*/preceding-sibling::statement//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]

38. Muloverflow37, 非参数uint newTokens = msg.value \* PRESALE\_PRICE;

require(this.balance >=presaleSoldTokens+newTokens);

//functionCall

[functionName/identifier[text()[1] = "require"]]

[callArguments/tupleExpression[expression[text()[1] = ">="]

and expression/expression[2]/plusminusOperator/plusOperator

and expression/expression[1][matches(text()[1],"^.balance$")]

and expression/expression[1]/expression[1][environmentalVariable[text()[1]="this"] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition/parameterList/parameter[typeName/elementaryTypeName[text()[1]="address"]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)

or text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[text()[1]="address"]]/identifier)]]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

and expression/expression[2]/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

]]

[parent::\*/parent::\*/parent::\*/preceding-sibling::statement//expressionStatement[expression[text()="="]

and expression/expression[1][variableDeclaration/typeName/elementaryTypeName[matches(text()[1],"uint|int")] or primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]]

and expression/expression[2]/muldivOperator/mulOperator

and expression/expression[2]/expression/environmentalVariable[matches(text()[1],"^msg.value$")]

]]

[not(ancestor::functionDefinition//(expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[1][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[2]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/preceding-sibling::expression/expression/primaryExpression/identifier)]

]

| expression[text()[1] = ">" or text()[1] = "<" or text()[1] = "<=" or text()[1] = ">="]

[expression[2][plusminusOperator/plusOperator

and expression/primaryExpression/identifier[text()[1]= (ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]

and expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//variableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier) or text()[1]= (ancestor::sourceUnit//stateVariableDeclaration[typeName/elementaryTypeName[matches(text()[1],"uint|int")]]/identifier)]

]]

[expression[1]/primaryExpression/identifier[text()[1]= (parent::\*/parent::\*/following-sibling::expression/expression/primaryExpression/identifier)]

])

)]

[not(ancestor::functionDefinition//expression[text()="."]

[expression[1]/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//functionCall//expression[plusminusOperator/plusOperator]/expression/primaryExpression/identifier)]

and functionCall/functionName/identifier[matches(text()[1],"add|Add")]

and functionCall/callArguments/tupleExpression/expression/primaryExpression/identifier[text()[1]=

(ancestor::functionDefinition//expressionStatement/expression[expression[2][muldivOperator/mulOperator and expression/environmentalVariable[matches(text()[1],"^msg.value$")]]]/expression[1]//identifier)]]

)]