

Name:

Student ID:

Compiler Construction, Spring 2022

Quiz 1 (4 points in total)

1. Given the production rules for **Stmt** and its implementation in a recursive-descent parser, please fill out the four blanks in the figure. (2pt).

Stmt → id assign Val Expr

Stmt → print id

...

```

procedure STMT( )
  if ts.PEEK( ) = id
  then
    call MATCH( ts, id ) 1
    call MATCH( ts, assign ) 2
    call VAL( )
    call EXPR( )
  else
    if ts.PEEK( ) = print
    then
      call MATCH( ts, print ) 3
      call MATCH( ts, id ) 4
    else
      call ERROR( )
  end

```

2. Differentiate which of the following is syntax error and semantic error and explain why. (2 pt)

a.

```

int main()
{
    return 0;
    cout << "I love compiler!";
}

```

b.

```

int main()
{
    int string;
    cout << I love compiler!;
}

```

ANS:

- semantic error, return 0 should be the last line
- syntax error, should be cout << "I love compiler!";