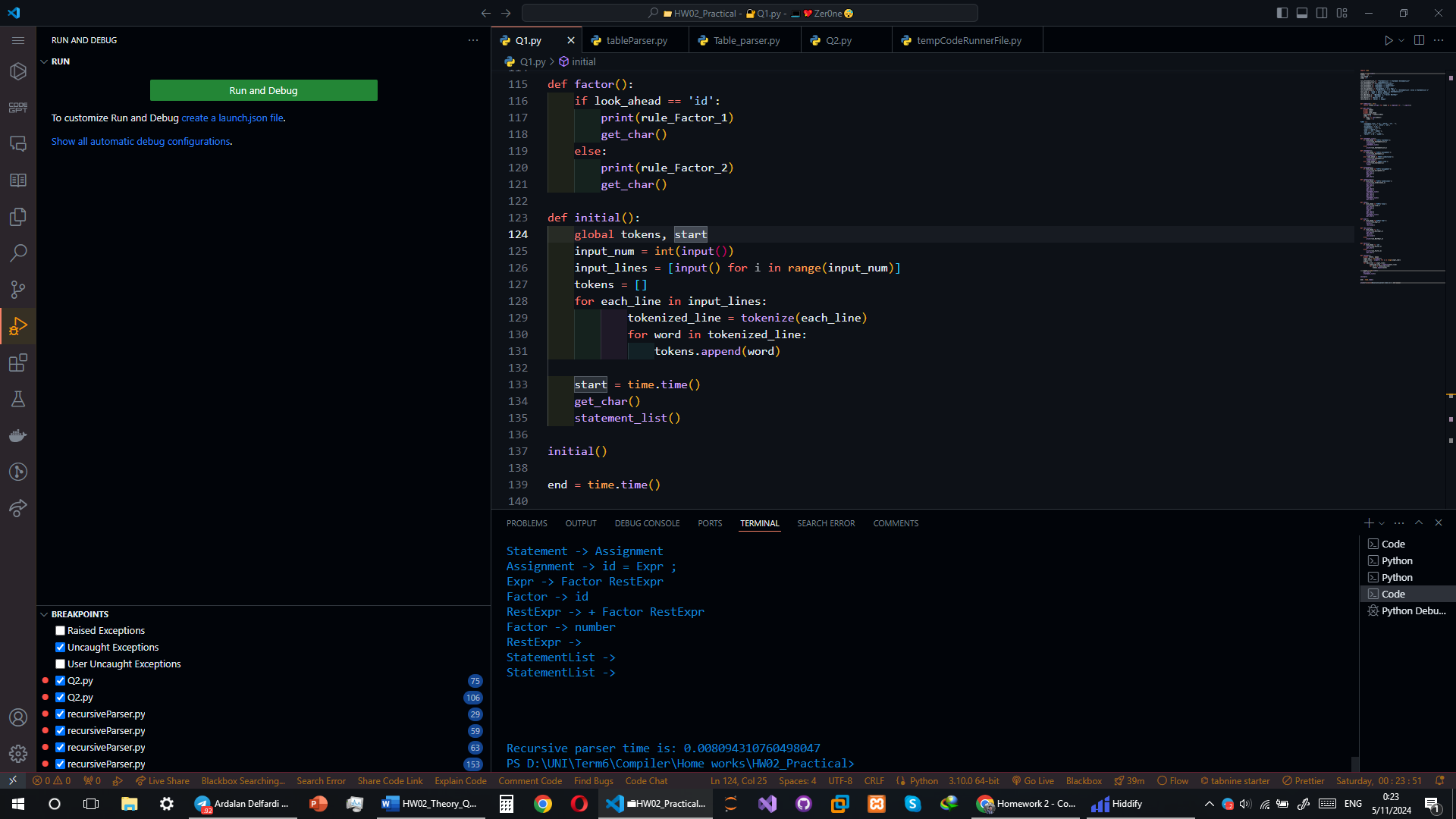
**تکلیف دوم(عملی) درس کامپایلر**

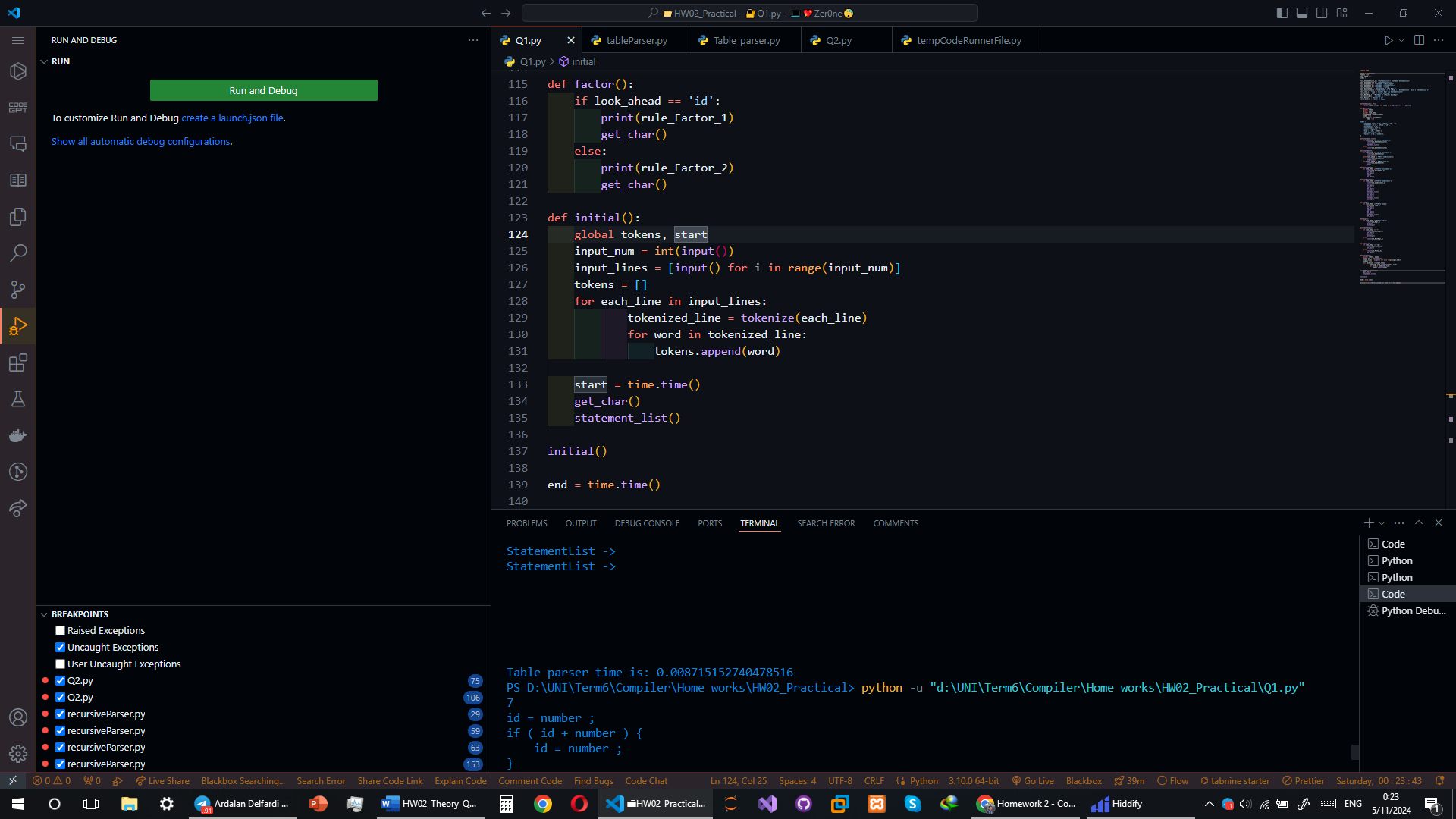
**مسیح تنورساز(40006133)**

**بخش اول:**

|  |  |  |
| --- | --- | --- |
| **RULE/FF** | **FIRST()** | **FOLLOW()** |
| **StatementList** | **[id, while, if, ε]** | **[$, }]** |
| **Statement** | **[if, while, id]** | **[if, while, id, $, }]** |
| **Assignment** | **[id]** | **[if, while, id, $, }]** |
| **Conditional** | **[if]** | **[if, while, id, $, }]** |
| **Loop** | **[while]** | **[if, while, id, $, }]** |
| **Expr** | **[id, number]** | **[;, )]** |
| **RestExpr** | **[+, ε]** | **[;, )]** |
| **Factor** | **[id, number]** | **[+, ;, )]** |

**بخش سوم:**





**بخش دوم:**

rule\_StatementList\_1 = "StatementList -> Statement StatementList"

rule\_StatementList\_2 = "StatementList ->"

rule\_Statement\_1 = "Statement -> Assignment"

rule\_Statement\_2 = "Statement -> Conditional"

rule\_Statement\_3 = "Statement -> Loop"

rule\_Assignment\_1 = "Assignment -> id = Expr ;"

rule\_Conditional\_1 = "Conditional -> if ( Expr ) { StatementList } else { StatementList }"

rule\_Loop\_1 = "Loop -> while ( Expr ) { StatementList }"

rule\_Expr\_1 = "Expr -> Factor RestExpr"

rule\_RestExpr\_1 = "RestExpr -> + Factor RestExpr"

rule\_RestExpr\_2 = "RestExpr ->"

rule\_Factor\_1 = "Factor -> id"

rule\_Factor\_2 = "Factor -> number"

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Id** | **=** | **;** | **(** | **)** | **{** | **}** | **+** | **Number** | **If** | **Else** | **While** | **$** |
| **StatementList** | **rule\_StatementList\_1** |  |  |  |  |  | **rule\_StatementList\_2** |  |  | **rule\_StatementList\_1** |  | **rule\_StatementList\_1** | **rule\_StatementList\_2** |
| **Statement** | **rule\_Statement\_1** |  |  |  |  |  |  |  |  | **rule\_Statement\_2** |  | **rule\_Statement\_3** |  |
| **Assignment** | **rule\_Assignment\_1** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Conditional** |  |  |  |  |  |  |  |  |  | **rule\_Conditional\_1** |  |  |  |
| **Loop** |  |  |  |  |  |  |  |  |  |  |  | **rule\_Loop\_1** |  |
| **Expr** | **rule\_Expr\_1** |  |  |  |  |  |  |  | **rule\_Expr\_1** |  |  |  |  |
| **RestExpr** |  |  | **rule\_RestExpr\_2** |  | **rule\_RestExpr\_2** |  |  | **rule\_RestExpr\_1** |  |  |  |  |  |
| **Factor** | **rule\_Factor\_1** |  |  |  |  |  |  |  | **rule\_Factor\_2** |  |  |  |  |