

```
import string
```

```
INT_LIT = 'INT_LIT'
```

```
IDENT = 'IDENT'
```

```
ADD_OP = 'ADD_OP'
```

```
SUB_OP = 'SUB_OP'
```

```
MULT_OP = 'MULT_OP'
```

```
DIV_OP = 'DIV_OP'
```

```
LEFT_PAREN = 'LEFT_PAREN'
```

```
RIGHT_PAREN = 'RIGHT_PAREN'
```

```
EOF = 'EOF'
```

```
UNKNOWN = 'UNKNOWN'
```

```
lookup_table = {
```

```
    '+': ADD_OP,
```

```
    '-': SUB_OP,
```

```
    '*': MULT_OP,
```

```
    '/': DIV_OP,
```

```
    '(': LEFT_PAREN,
```

```
    ')': RIGHT_PAREN
```

```
}
```

```
def is_letter(char):
```

```
    return char in string.ascii_letters
```

```
def is_digit(char):
```

```
return char in string.digits
```

```
def lexer(input_string):
```

```
    index = 0
```

```
    tokens = []
```

```
    while index < len(input_string):
```

```
        current_char = input_string[index]
```

```
        if current_char.isspace():
```

```
            index += 1
```

```
            continue
```

```
        elif is_letter(current_char):
```

```
            start = index
```

```
            while index < len(input_string) and (is_letter(input_string[index]) or  
is_digit(input_string[index])):
```

```
                index += 1
```

```
            lexeme = input_string[start:index]
```

```
            tokens.append((IDENT, lexeme))
```

```
        elif is_digit(current_char):
```

```
            start = index
```

```
            while index < len(input_string) and is_digit(input_string[index]):
```

```
                index += 1
```

```
            lexeme = input_string[start:index]
```

```
tokens.append((INT_LIT, lexeme))
```

```
elif current_char in lookup_table:
```

```
    tokens.append((lookup_table[current_char], current_char))
```

```
    index += 1
```

```
else:
```

```
    tokens.append((UNKNOWN, current_char))
```

```
    index += 1
```

```
tokens.append((EOF, 'EOF'))
```

```
return tokens
```

```
expression = "sum + 25 * (value - 7)"
```

```
tokens = lexer(expression)
```

```
for token_type, lexeme in tokens:
```

```
    print(f"Next token is: {token_type}, Next lexeme is: {lexeme}")
```