

## AIM-Scanner phase implementation in "C" language.

### Valid operations:

1.  $x=p+q$  Concatenates the p with q and stores result in x
  2.  $x=p-q$  Removes the last "q" symbols from p and stores answer back in x.
  3.  $x=p<->q$  Replaces all occurrence of p variable with q variable in x string.
  4.  $pos=x?p$  Find and return the first position in X where q string was found
- Variables can be of type: "string" or "char"
  - Variables can be assigned value using "=" symbol.
  - Variable names should start with "small case character" & can't contain integer.
  - The maximum size of name can be 3.

### Regular Expressions:

letter	-->	[a-z A-Z]
sletter	-->	[a-z]
assop	-->	=
relop	-->	+   -   <->   ?
string	-->	string
char	-->	char
id	-->	sletter(letter)?(letter)?
whitespace	-->	(space tab newline)*

## Output Screenshot:

```
Enter Program : string str = p + q
< Keyword , string>
< ID , str >
< Assop , = >
< ID , p >
< Relop , + >
< ID , q >
```

```
Enter Program : char chr = pqr pq + - = <-> < > trans stri
< Keyword , char>
< ID , chr >
< Assop , = >
< ID , pqr >
< ID , pq >
< Relop , + >
< Relop , - >
< Assop , = >
< Relop , <-> >
Invalid Token : <
Invalid Token : >
Invalid < ID , trans >
Invalid < ID , stri >
```

```
Enter Program : string char a ab abc abcd = + - ? <->
< Keyword , string>
< Keyword , char>
< ID , a >
< ID , ab >
< ID , abc >
Invalid < ID , abcd >
< Assop , = >
< Relop , + >
< Relop , - >
< Relop , ? >
< Relop , <-> >
```

```
Enter Program : +-?<->charstringvar
< Relop , + >
< Relop , - >
< Relop , ? >
< Relop , <-> >
< Keyword , char>
< Keyword , string>
< ID , var >
```

```
Enter Program : a ab ab1 abc abc1 A
< ID , a >
< ID , ab >
Invalid < ID , ab1 >
< ID , abc >
Invalid < ID , abc1 >
Invalid Token : A
```

```
Enter Program : 12abc
Invalid Token : 1
Invalid Token : 2
< ID , abc >
```