Experiment 4

Aim: Write C programs to implement the following.

A. Minimize any given DFA.

B. Develop an operator precedence parser for a given language.

The sample inputs/outputs are attached herewith.

Output - DFA Minimization

```
File  Edit  View  Search  Terminal  Help
CDLab>./dfa_min
Enter the start state
0
Enter the final state(s)
2 5
Enter the transitions one by one in the form state symbol state.
 Press Ctrl+D when finished
0 a 1
1 b 2
0 b 3
3 a 4
4 b 5
The new start state is:
3
The new final state(s) is\are:
0
The new transitions are:
1 b 0
2 a 1
3 a 1
3 b 2
CDLab>
```

Figure: DFA Minimization

Output - Operator Precedence Parsing

```
CDLab>./op_parse

Enter the string
i+i*i

STACK   INPUT   ACTION
$i      +i*i$   Shift
$E      +i*i$   Reduced: E->i
$E+     i*i$    Shift
$E+i    *i$     Shift
$E+E    *i$     Reduced: E->i
$E      *i$     Reduced: E->E+E
$E*     i$      Shift
$E*i    $       Shift
$E*E    $       Reduced: E->i
$E      $       Reduced: E->E*E
$E$             Shift
$E$             Shift
Accepted
CDLab>
```

Figure: Operator Precedence Parsing