```c
1   #include <stdio.h>
2   #include <string.h>
3
4   #define SUCCESS 1
5   #define FAILED 0
6
7   int E(), Edash(), T(), Tdash(), F();
8
9   const char *cursor;
10  char string[64];
11
12  int main()
13  {
14
15      printf("Kindly enter the string: ");
16      scanf("%s", string);
17      //sscanf("i+(i+i)*i", "%s", string);
18      cursor = string;
19      printf("\n");
20      printf("Input       Action\n");
21      printf("--------------------------------\n");
22
23      if (E() && *cursor == '\0') {
24          printf("--------------------------------\n");
25          printf("String parsing success\n");
26          return 0;
27      } else {
28          printf("--------------------------------\n");
29          printf("String parsing failed\n");
30          return 1;
31      }
32  }
33
34  int E()
35  {
36      printf("%-16s E -> T E'\n", cursor);
37      if (T()) {
38          if (Edash())
39              return SUCCESS;
40          else
41              return FAILED;
42      } else
43          return FAILED;
44  }
45
46  int Edash()
47  {
48      if (*cursor == '+') {
49          printf("%-16s E' -> + T E'\n", cursor);
50          cursor++;
51          if (T()) {
52              if (Edash())
53                  return SUCCESS;
54              else
55                  return FAILED;
56          } else
57              return FAILED;
58      } else {
59          printf("%-16s E' -> $\n", cursor);
60          return SUCCESS;
61      }
62  }
63
64  int T()
65  {
66      printf("%-16s T -> F T'\n", cursor);
67      if (F()) {
68          if (Tdash())
69              return SUCCESS;
70          else
71              return FAILED;
72      } else
73          return FAILED;
74  }
75
76  int Tdash()
77  {
78      if (*cursor == '*') {
```

```c
79              printf("%-16s T' -> * F T'\n", cursor);
80              cursor++;
81              if (F()) {
82                  if (Tdash())
83                      return SUCCESS;
84                  else
85                      return FAILED;
86              } else
87                  return FAILED;
88          } else {
89              printf("%-16s T' -> $\n", cursor);
90              return SUCCESS;
91          }
92      }

93
94      int F()
95      {
96          if (*cursor == '(') {
97              printf("%-16s F -> ( E )\n", cursor);
98              cursor++;
99              if (E()) {
100                 if (*cursor == ')') {
101                     cursor++;
102                     return SUCCESS;
103                 } else
104                     return FAILED;
105             } else
106                 return FAILED;
107         } else if (*cursor == 'i') {
108             cursor++;
109             printf("%-16s F ->i\n", cursor);
110             return SUCCESS;
111         } else
112             return FAILED;
113     }
```