```c
#include <stdio.h>

#include <ctype.h>

#include <string.h>


void FIRST(char);

int count, n = 0;

char prodn[10][10], first[10];


int main() {

   int i, choice;

   char c, ch;


   printf("How many productions? ");

   scanf("%d", &count);


   printf("Enter %d productions (e.g., E=E+T or A=aB):\n", count);

   for (i = 0; i < count; i++) {

      scanf("%s", prodn[i]);

   }


   do {

      n = 0;

      printf("\nFind FIRST of: ");

      scanf(" %c", &c);

      FIRST(c);

      printf("FIRST(%c) = { ", c);
```

```c
        for (i = 0; i < n; i++) {

            printf("%c ", first[i]);

        }

        printf("}\n");

        printf("\nPress 1 to continue: ");

        scanf("%d", &choice);

    } while (choice == 1);


    return 0;

}


void FIRST(char c) {

    int j;

    if (!isupper(c)) {

        first[n++] = c;

        return;

    }


    for (j = 0; j < count; j++) {

        if (prodn[j][0] == c) {

            if (prodn[j][2] == '#') {

                first[n++] = '#';

            } else if (islower(prodn[j][2])) {

                first[n++] = prodn[j][2];

            } else {

                FIRST(prodn[j][2]);
```

```
        }
      }
    }
  }
```