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Practical 2

Aim: To implement a Recursive Descent Parser Algorithm for the grammar.

P2 > Code

```
#include<stdio.h>

#include<conio.h>


char input[100];

int i, l;

void main()

{

  printf("\nRecursive descent parsing for the following grammar\n");
  printf("\nE->TE'\nE'->+TE'/@\nT->FT'\nT'->*FT'/@\nF->(E)/ID\n");
  printf("\nEnter the string to be checked:");
  gets(input);

  if (E())

  {
```

```
    if (input[i + 1] == '\0')
      printf("\nString is accepted");
    else
      printf("\nString is not accepted");
  } else
    printf("\nString not accepted");
  getch();
}
E()
{
  if (T())
  {
    if (EP())
      return (1);
    else
      return (0);
  } else
    return (0);
}
EP()
{
  if (input[i] == '+')
  {
    i++;
```

```
    if (T())
    {
      if (EP())
        return (1);
      else
        return (0);
    } else
      return (0);
  } else
    return (1);
}
T()
{
  if (F())
  {
    if (TP())
      return (1);
    else
      return (0);
  } else
    return (0);
}
TP()
```

```
{
  if (input[i] == '*')
  {
    i++;
    if (F())
    {
      if (TP())
        return (1);
      else
        return (0);
    } else
      return (0);
  } else
    return (1);
}
F()
{
  if (input[i] == '(')
  {
    i++;
    if (E())
    {
      if (input[i] == ')')
      {
```

```
        i++;

        return (1);

      } else

        return (0);

    } else

      return (0);

  } else if (input[i] >= 'a' && input[i] <= 'z' || input[i] >= 'A'
&& input[i] <= 'Z')

  {

    i++;

    return (1);

  } else

    return (0);

}
```

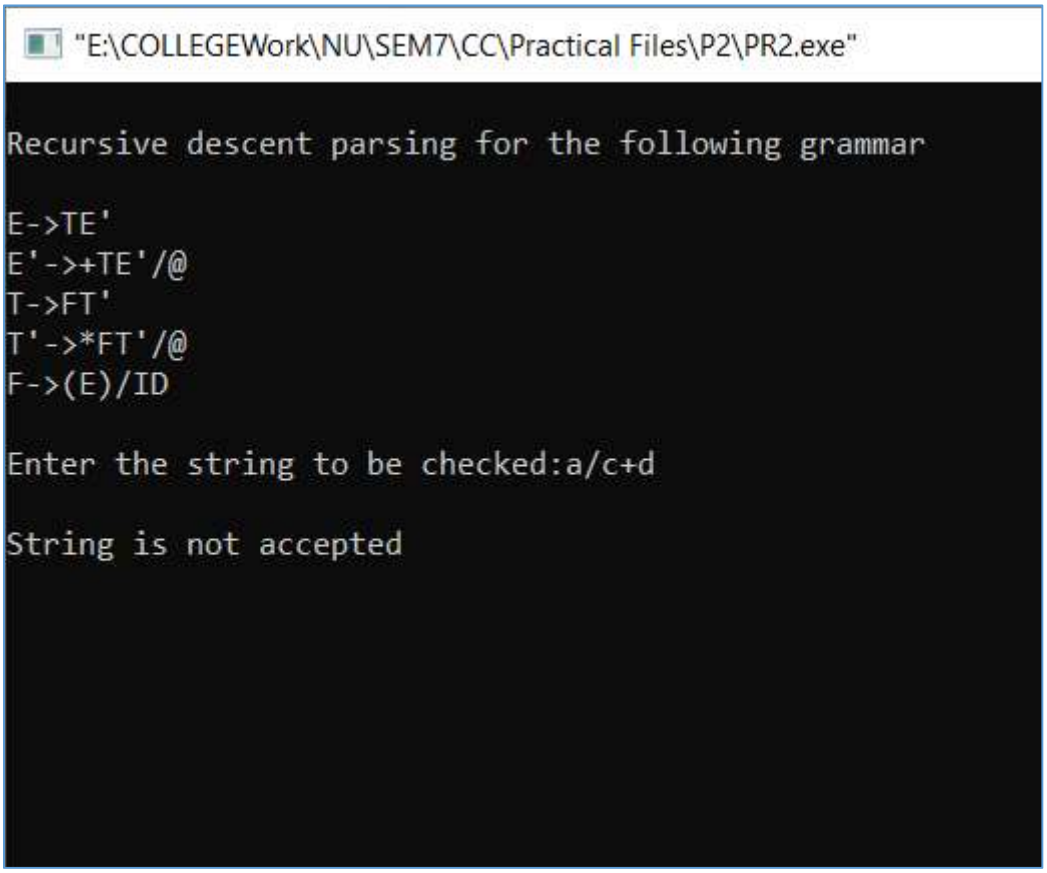
Output:

```
Recursive descent parsing for the following grammar

E->TE'
E'->+TE'/@
T->FT'
T'->*FT'/@
F->(E)/ID

Enter the string to be checked:(a+b)*c

String is accepted
```


"E:\COLLEGEWork\NU\SEM7\CC\Practical Files\P2\PR2.exe"
Recursive descent parsing for the following grammar
E->TE'
E'->+TE'/@
T->FT'
T'->*FT'/@
F->(E)/ID
Enter the string to be checked:a/c+d
String is not accepted

END