2CS701- Compiler Construction

Practical 2

Aim: To Implement RDP for the Grammer.

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

C FILE:

```c
#include <string.h>

#include <stdio.h>

#include <ctype.h>

char input[10];

int i, error;

void E();

void T();

void Eprime();

void Tprime();

void F();
```

```
main()

{

    i = 0;

    error = 0;



    printf("Enter an arithmetic expression : "); //



Eg:

    a + a *a



            gets(input);

    E();
```

```
    if (strlen(input) == i && error == 0)

        printf("\nAccepted..!!!\n");

    else

        printf("\nRejected..!!!\n");

}



void E()

{

    T();

    Eprime();

}

void Eprime()
```

```
{




    if (input[i] == '+')

    {

        i++;

        T();

        Eprime();

    }

}

void T()

{

    F();
```

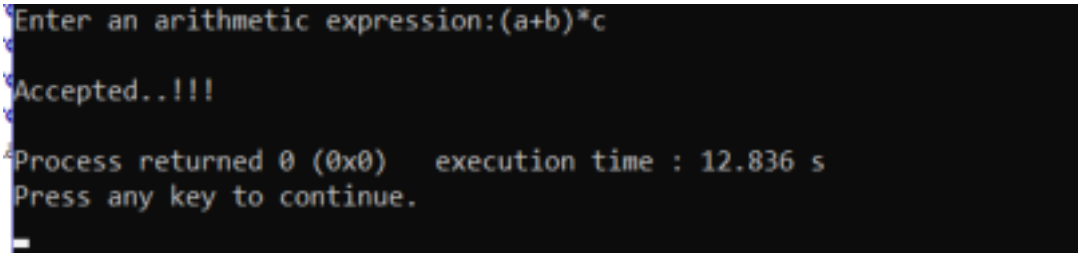
```
    Tprime();

}

void Tprime()

{

    if (input[i] == '*')

    {




        i++;

        F();

        Tprime();

    }

}
```

```
void F()

{

    if (isalnum(input[i]))

        i++;

    else if (input[i] == '(')

    {

        i++;

        E();

        if (input[i] == ')')

            i++;

        else
```

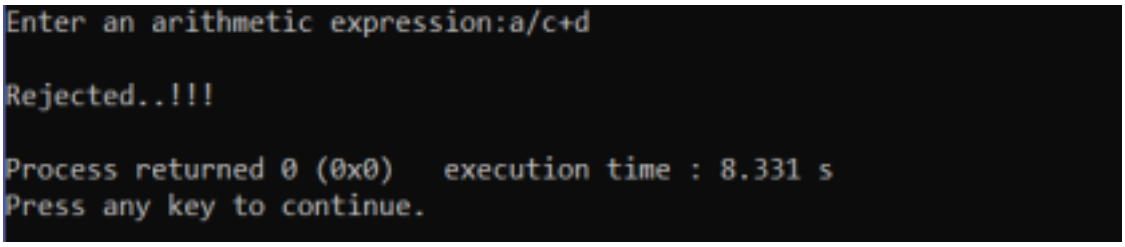
```
            error = 1;

    }

    else

        error = 1;

}
```

Output:

1.


Enter an arithmetic expression:(a+b)*c
Accepted..!!!
Process returned 0 (0x0)   execution time : 12.836 s
Press any key to continue.

2.


Enter an arithmetic expression:a/c+d
Rejected..!!!
Process returned 0 (0x0)   execution time : 8.331 s
Press any key to continue.