

```

#include <stdio.h>

#include<string.h>

void main()

{

    char stack[20],ip[20],opt[10][10][1],ter[10];

    int i,j,k,n,top=0,col,row;

    for(i=0;i<n;i++)

    {

        stack[i]=NULL;

        ip[1]=NULL;

        for(j=0;j<10;j++)

        {

            opt[i][j][1]=NULL;

        }

    }

    printf("Enter the number of terminals");

    scanf("%d",&n);

    printf("\nEnter the terminals");

    scanf("%s",ter);

    printf("\nEnter the table values:\n");

    for(i=0;i<n;i++)

    {

        for(j=0;j<n;j++)

        {

            printf("Enter the value for %c %c:",ter[i],ter[j]);

            scanf("%s",opt[i][j]);

```

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    }
}

printf("\nOPERATOR PRECEDENCE TABLE :\n");

for(i=0;i<n;i++)

{
    printf("\t%c",ter[i]);

}

for(i=0;i<n;i++)

{
    printf("\n%c",ter[i]);

    for(j=0;j<n;j++)

    {
        printf("\t%c",opt[i][j][0]);

    }

}

stack[top]='$';

printf("Enter the input string");

scanf("%s",ip);

i=0;

printf("\nSTACK\t\t\tINPUT STRING\t\t\tACTION\n");

printf("\n%s\t\t\t%s\t\t\t",stack,ip);

while(i<=strlen(ip))

{

    for(k=0;k<n;k++)

    {

        if(stack[top]==ter[k])

            col=k;

    }

}

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        if(ip[i]==ter[k])

            row=k;

    }

    if((stack[top]=='$')&&(ip[i]=='$'))

    {

        printf("String accepted");

        break;

    }

    else if((opt[col][row][0]=='<') || (opt[col][row][0]=='='))

    {

        stack[++top]=opt[col][row][0];

        stack[++top]=ip[i];

        printf("Shift %c",ip[i]);

        i++;

    }

    else

    {

        if(opt[col][row][0]=='>')

        {

            while(stack[top]!='<')

            {

                --top;

            }

            top=top-1;

            printf("Reduce");

        }

        else

```

```

    {
        printf("\nString is not accepted");
        break;
    }
}

printf("\n");
for(k=0;k<=top;k++)
{
    printf("%c",stack[k]);
}

printf("\t\t\t");
for(k=i;k<strlen(ip);k++)
{
    printf("%c",ip[k]);
}

printf("\t\t\t");
}
}

```

OUTPUT

```
Enter the number of terminals4
```

```
Enter the terminalsD+*$
```

```
Enter the table values:
```

```
Enter the value for D D:0
```

```
Enter the value for D +:>
```

```
Enter the value for D *:>
```

Enter the value for D \$:>

Enter the value for + D:<

Enter the value for + +:>

Enter the value for + *:<

Enter the value for + \$:>

Enter the value for * D:<

Enter the value for * +:>

Enter the value for * *:>

Enter the value for * \$:>

Enter the value for \$ D:<

Enter the value for \$ +:<

Enter the value for \$ *:<

Enter the value for \$ \$:>

OPERATOR PRECEDENCE TABLE :

	D	+	*	\$
D	0	>	>	>
+	<	>	<	>
*	<	>	>	>
\$	<	<	<	>

Enter the input string D+D*D\$

STACK	INPUT STRING	ACTION
\$ <u>LL</u>	D+D*D\$	Shift D
\$<D	+D*D\$	Reduce
\$<D	+D*D\$	Reduce
\$	+D*D\$	Shift +
\$<+	D*D\$	Shift D
\$<+<D	*D\$	Reduce

\$<+	*D\$	Shift *
\$<+<*	D\$	Shift D
\$<+<*	D\$	Shift D
\$<+<*<D	\$	Reduce
\$<+<*	\$	Reduce
\$<+	\$	Reduce
\$	\$	String accepted