**PROGRAM**

#include <stdio.h>

#include <string.h>

char input\_string[26], action[20], stack[30], act[10];

int input\_length, j=0,i=0;

void check();

int main()

{

puts("GRAMMAR is: \n\nE->E+E\nE->E\*E\nE->(E)\nE->id");

puts("Enter the string: ");

gets(input\_string);

printf("\n");

input\_length = strlen(input\_string);

strcpy(action, "SHIFT ->");

puts("Stack\tinput\taction");

for(i=0;j<input\_length;i++,j++)

{

if(input\_string[j] == 'i' && input\_string[j+1] == 'd')

{

stack[i] = input\_string[j];

stack[i+1] = input\_string[j+1];

stack[i+2] = '\0';

input\_string[j] = ' ';

input\_string[j+1] = ' ';

printf("\n$%s\t%s\t%s id", stack, input\_string, action);

check();

}

else

{

stack[i] = input\_string[j];

stack[i+1] = '\0';

input\_string[j] = ' ';

printf("\n$%s\t%s\t%s %c", stack, input\_string, action, stack[i]);

check();

}

}

return 0;

}

void check()

{

strcpy(act, "REDUCE TO E");

for(int k=0;k< input\_length;k++)

{

if(stack[k]=='i' && stack[k+1] == 'd')

{

stack[k] = 'E';

stack[k+1] = '\0';

printf("\n$%s\t%s\t%s", stack, input\_string, act);

j++;

}

}

for(int k=0;k< input\_length;k++)

{

if(stack[k]=='E' && stack[k+1] == '+' && stack[k+2] == 'E')

{

stack[k] = 'E';

stack[k+1] = '\0';

stack[k+2] = '\0';

printf("\n$%s\t%s\t%s", stack, input\_string, act);

i-=2;

}

}

for(int k=0;k< input\_length;k++)

{

if(stack[k]=='E' && stack[k+1] == '\*' && stack[k+2] == 'E')

{

stack[k] = 'E';

stack[k+1] = '\0';

stack[k+2] = '\0';

printf("\n$%s\t%s\t%s", stack, input\_string, act);

i-=2;

}

}

for(int k=0;k< input\_length;k++)

{

if(stack[k] == '(' && stack[k+1] == 'E' && stack[k+2] == ')')

{

stack[k] = 'E';

stack[k+1] = '\0';

stack[k+2] = '\0';

printf("\n$%s\t%s\t%s", stack, input\_string, act);

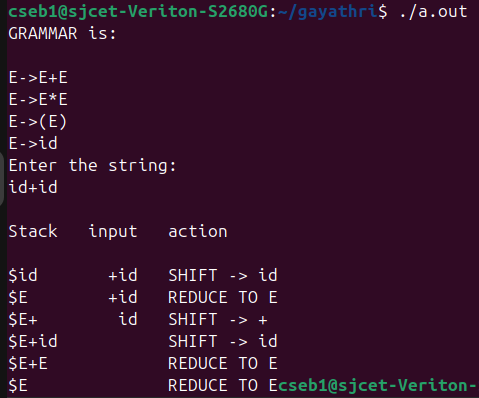
i-=2;

}

}

}

**OUTPUT**

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