**Pgm3.c**

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

char table[10][10]={"NT","a","b","A","aBa","Error","B","@","bB"};

char buffer[10],stack[10];

int top=-1;

char pop()

{return stack[top--];}

void push(int e)

{

stack[++top]=e;

}

void display\_stack()

{

int i=top;

while(i>=0)

{

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

i--;

}

printf("\n");

}

char\* parse\_table(char stack\_top,char input\_val)

{

switch(stack\_top)

{

case 'A':

switch(input\_val){

case 'a':

return table[4];

case 'b':

return table[5];

}

break;

case 'B':

switch(input\_val){

case 'a':

return table[7];

case 'b':

return table[8];

}

default: return table[5];

}

}

int main()

{

int ptr=0,i=0,j,k,w=0;

char \*str;

for(j=0;j<3;j++)

{

for(k=0;k<3;k++)

{

printf("%s\t",table[w++]);

}

printf("\n");

}

printf("enter string\n");

scanf("%s",buffer);

if(buffer[strlen(buffer)-1]!=';')

{

printf("string should end with:");

exit(0);

}

push('$');

push('A');

while(stack[top]!='$'&& (ptr<strlen(buffer))){

if(stack[top]==buffer[ptr])

{

ptr++;

printf("1.Element popped is %c\n",pop());

}

else if(stack[top]=='@')

{

printf("2.Element popped is %c\n",pop());

}

else {

str=parse\_table(stack[top],buffer[ptr]);

if(strcmp(str,"Error")==0)

{

printf("error in parsing\n");

break;

}

printf("3.Element popped is %c\n",pop());

for(i=strlen(str)-1;i>=0;i--)

push(\*(str+i));

}

display\_stack();

}

if(stack[top]=='$'&& buffer[ptr]==';')

printf("string is accepted\n");

else

{

printf("string is not accepted\n");

}

return 0;

}