**To write a C program to simulate a PDA for the language L={ 0n 12n | n>=1 }**

**in which n number of 0's are followed by 2n number of 1's**

**AIM** : To write a C program to simulate a PDA for the language L={ 0n 12n | n>=1 }

in which n number of 0's are followed by 2n number of 1's

## Program:

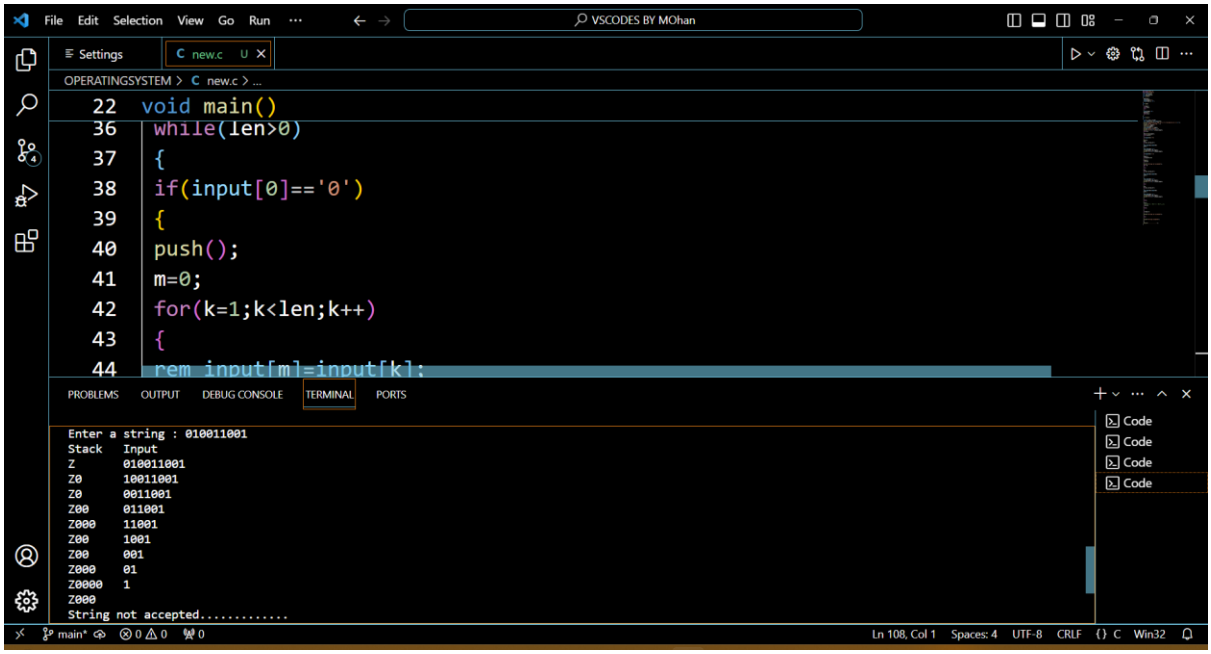
```
#include<stdio.h>
#include<string.h>
char stack[20];
int top,count=0;
void push()
{
 top=top+1;
 stack[top]='0';
 stack[top+1]='\0';
}
int pop()
{
 if(top<1)
 return(0);
 else
 {
 stack[top]='\0';
 top=top-1;
 return(1);
 }
}
void main()
{
 int m,i,j,k,l,a,len;
 char input[20],rem_input[20];
 printf("Simulation of PDA for n 0's followed by 2n 1's\n");
```

```
printf("Enter a string : ");
scanf("%s",input);
l=strlen(input);
j=0;stack[0]='Z';top=0;
printf("Stack\tInput\n");
printf("%s\t%s\n",stack,input);
while(1)
{
len=strlen(input);
while(len>0)
{
if(input[0]=='0')
{
push();
m=0;
for(k=1;k<len;k++)
{
rem_input[m]=input[k];
m=m+1;
}
rem_input[m]='\0';
strcpy(input,rem_input);
printf("%s\t%s\n",stack,input);
}
if(input[0]=='1')
{
count++;
if(count%2==0)
{
a=pop();
if(a==0)
```

```
{
printf("String not accepted");
goto b;
}
else
{
m=0;
for(k=1;k<len;k++)
{
rem_input[m]=input[k];
m=m+1;
}
}
rem_input[m]='\0';
strcpy(input,rem_input);
printf("%s\t%s\n",stack,input);
}
else
{
m=0;
for(k=1;k<len;k++)
{
rem_input[m]=input[k];
m=m+1;
}
rem_input[m]='\0';
strcpy(input,rem_input);
printf("%s\t%s\n",stack,input);
}
}
break;
```

```
}
j=j+1;
//printf("j = %d\t l = %d\n",j,l);
if(j==l)
{
break;
}
}
if(top>=1)
{
printf("String not accepted");
}
else
{
printf("String accepted");
}
b:
printf(".............");
```

}**OUTPUT:**



}**RESULT:** Output is successfully obtained.