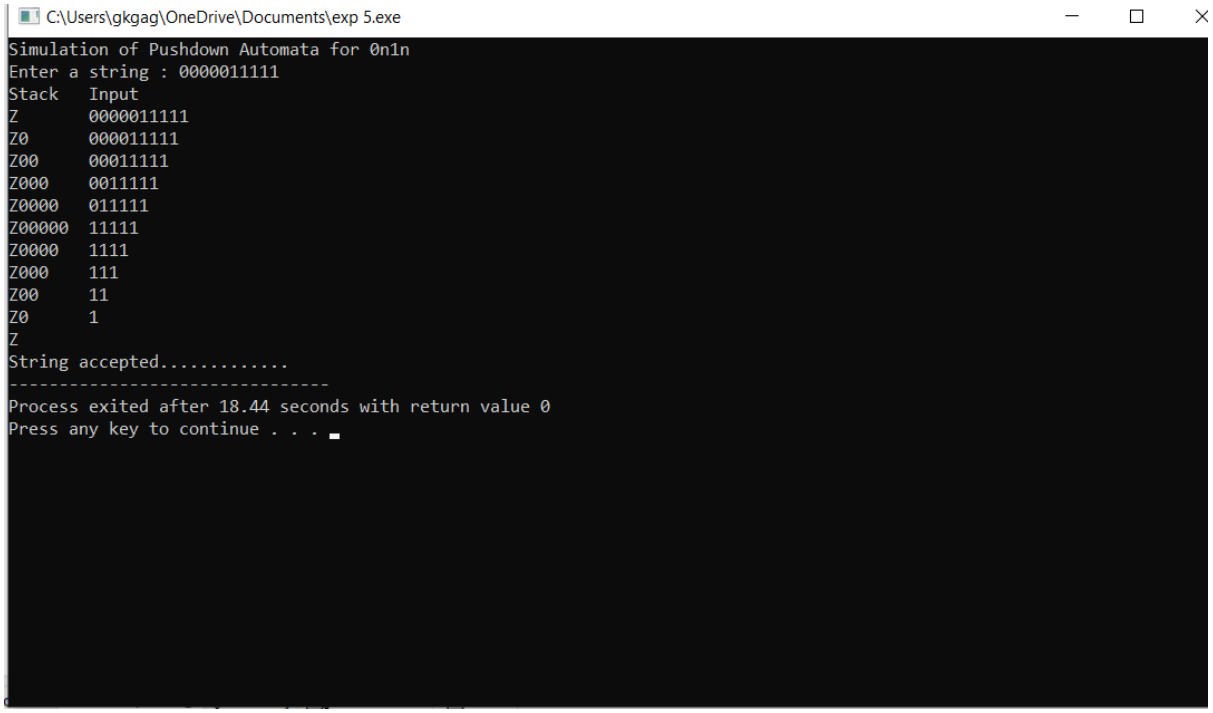
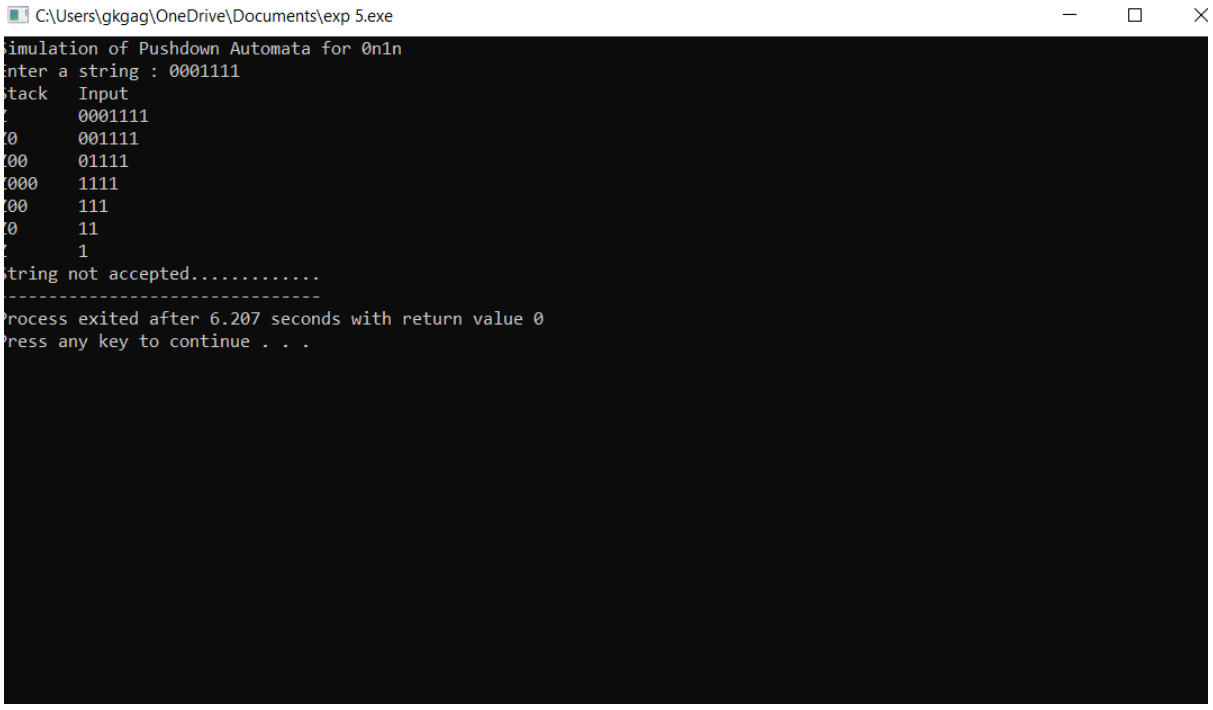
SIMULATING PUSHDOWN AUTOMATA

```
#include<stdio.h>
#include<string.h>
char stack[20];
int top;
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);
 }
}
int main()
{
 int m,i,j,k,l,a,len;
 char input[20],rem_input[20];
 printf("Simulation of Pushdown Automata for 0n1n\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')
{
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);
}
}
break;
}
j=j+1;
if(j==(l))
{
break;
}
}
if(top>=1)
{
printf("String not accepted");
}
else
{
printf("String accepted");
}
b:
printf(".....");
}
```


C:\Users\gkgag\OneDrive\Documents\exp 5.exe
Simulation of Pushdown Automata for 0n1n
Enter a string : 0000011111
Stack Input
Z 0000011111
Z0 000011111
Z00 00011111
Z000 0011111
Z0000 011111
Z00000 11111
Z0000 1111
Z000 111
Z00 11
Z0 1
Z
String accepted.....
Process exited after 18.44 seconds with return value 0
Press any key to continue . . .


C:\Users\gkgag\OneDrive\Documents\exp 5.exe
imulation of Pushdown Automata for 0n1n
nter a string : 0001111
tack Input
0001111
0 001111
00 01111
000 1111
00 111
0 11
1
tring not accepted.....
rocess exited after 6.207 seconds with return value 0
ress any key to continue . . .