

[Type here]

## EXPERIMENT:-5

### PROGRAM:-

```
#include<std
io.h>
#include<str
ing.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);
    }
}
void 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++)  {
```

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```
        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(" .....")
; }
```

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```
Simulation of Pushdown Automata for 0n1n
Enter a string : 0000011111
Stack   Input
Z       0000011111
Z0      000011111
Z00     00011111
Z000    0011111
Z0000   011111
Z00000  11111
Z00000  1111
Z0000   111
Z000    11
Z00     1
Z0      1
Z
String accepted.....
Process returned 13 (0xD)    execution time : 6.433 s
Press any key to continue.

Simulation of Pushdown Automata for 0n1n
Enter a string : 0001111
Stack   Input
Z       0001111
Z0      001111
Z00     01111
Z000    1111
Z000    111
Z00     11
Z0      1
Z       1
String not accepted.....
Process returned 13 (0xD)    execution time : 6.998 s
Press any key to continue.
```