EXPERIMENT:-6

PROGRAM:-

```
#include<std
io.h>
#include<str
ing.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();
```

```c
        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;
```

```c
//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:-

```
Simulation of PDA for n 0's followed by 2n 1's
Enter a string : 000011111111
Stack      Input
Z          000011111111
Z0         00011111111
Z00        0011111111
Z000       011111111
Z0000      11111111
Z0000      1111111
Z000       111111
Z000       11111
Z00        1111
Z00        111
Z0         11
Z0         1
Z
String accepted.............
Process returned 13 (0xD)    execution time : 4.912 s
Press any key to continue.
```

```
Simulation of PDA for n 0's followed by 2n 1's
Enter a string : 0001111
Stack      Input
Z          0001111
Z0         001111
Z00        01111
Z000       1111
Z000       111
Z00        11
Z00        1
Z0
String not accepted.............
Process returned 13 (0xD)    execution time : 5.739 s
Press any key to continue.
```