

## SIMULATING TURING MACHINE

```
#include<stdio.h>
#include<string.h>
int main()
{
    int i,j,le,flag,flag1,flag2;
    char str[20];
    printf("Program to show how a turing machine will process 0n1n2n\n");
    printf("Enter a string : ");
    scanf("%s",str);
    le=strlen(str);
    j=0;
    while(1)
    {
        flag=0;flag1=0;flag2=0;i=0;
        while(i<le)
        {
            if((str[i]=='0')&&(flag==0))
            {
                str[i] = 'A';
                printf("%s\n",str);
                flag=1; //To mark that a 0 is changed to A
                i=i+1;
            }
            else if((str[i]=='0')&&(flag==1))
            {
                i=i+1; //Skip 0
            }
            else if(str[i]=='A')
```

```
{
i=i+1; //Skip A
}
else if((str[i]=='1')&&(flag1==0))
{
str[i] = 'B';
printf("%s\n",str);
flag1=1; //To mark that a 1 is changed to B
i=i+1;
}
else if((str[i]=='1')&&(flag1==1))
{
i=i+1; //Skip 1
}
else if(str[i]=='B')
{
i=i+1; //Skip B
}
else if((str[i]=='2')&&(flag2==0))
{
str[i] = 'C';
printf("%s\n",str);
flag2=1; //To mark that a 2 is changed to C
i=i+1;
}
else if((str[i]=='2')&&(flag2==1))
{
i=i+1; //Skip 2
}
else if(str[i]=='C')
{
```

```
i=i+1; //Skip C
```

```
}
```

```
}
```

```
j=j+1;
```

```
if(j==le)
```

```
{
```

```
break;
```

```
}
```

```
}
```

```
}
```

C:\Users\gkgag\OneDrive\Documents\exp 7.exe

Program to show how a turing machine will process 0n1n2n

Enter a string : 000111222

A00111222

A00B11222

A00B11C22

AA0B11C22

AA0BB1C22

AA0BB1CC2

AAABB1CC2

AAABBCC2

AAABBCCC

-----  
Process exited after 18.42 seconds with return value 0

Press any key to continue . . .