TASK 1

CODE:

```asm
l4task1.asm
1    .model tiny
2    .data
3    fileName db "l4task1.txt", 0
4    nameId db "Name: Rohit Mundada, ID: 2019AAPS0343G", 0dh, 0ah
5    handle dw ?
6    .code
7    .startup
8        ;create file l4task1.txt
9        mov ah,3ch
10       lea dx,fileName
11       mov cl,20h
12       int 21h
13
14       ;open l4task1.txt with WR/RD permission
15       mov ah,3dh
16       mov al,02h
17       lea dx,fileName
18       int 21h
19       mov handle,ax
20
21       ;write nameId twice using loop
22       mov si,02h
23   x1: mov ah,40h
24       mov bx,handle
25       lea dx,nameId
26       mov cx,40
```

```asm
l4task1.asm
27       int 21h
28       dec si
29       jnz x1
30
31       ;closing l4task1.txt
32       mov ah,3eh
33       mov bx,handle
34       int 21h
35   .exit
36   end
37
```

OUTPUT: [File name is L4TASK1.TXT]

```
L4TASK1.TXT
1   Name: Rohit Mundada, ID: 2019AAPS0343G
2   Name: Rohit Mundada, ID: 2019AAPS0343G
3
```

TASK 2

CODE:

```asm
l4task2.asm
1    .model tiny
2    .data
3    fileName db "l4task1.txt", 0
4    hostelRn db "Hostel Name: DH2, Room No: 326R"
5    handle dw ?
6    .code
7    .startup
8        ;opening existing file <l4task1.txt> with WR/RD permission
9        mov ah,3dh
10       mov al,02h
11       lea dx,fileName
12       int 21h
13       mov handle,ax
14
15       ;moving file pointer to end of file
16       mov ah,42h
17       mov al,02h
18       mov bx,handle
19       mov cx,0000h
20       mov dx,0000h
21       int 21h
22
23       ;appending hostelRn data to l4task1.txt
24       mov ah,40h
25       mov bx,handle
26       mov cx,31
```

```asm
l4task2.asm
27       lea dx,hostelRn
28       int 21h
29
30       ;closing l4task1.txt
31       mov ah,3eh
32       mov bx,handle
33       int 21h
34   .exit
35   end
```

OUTPUT: [Hostel Name and Room No appended at the end of L4TASK1.TXT]

```
L4TASK1.TXT
1   Name: Rohit Mundada, ID: 2019AAPS0343G
2   Name: Rohit Mundada, ID: 2019AAPS0343G
3   Hostel Name: DH2, Room No: 326R
```
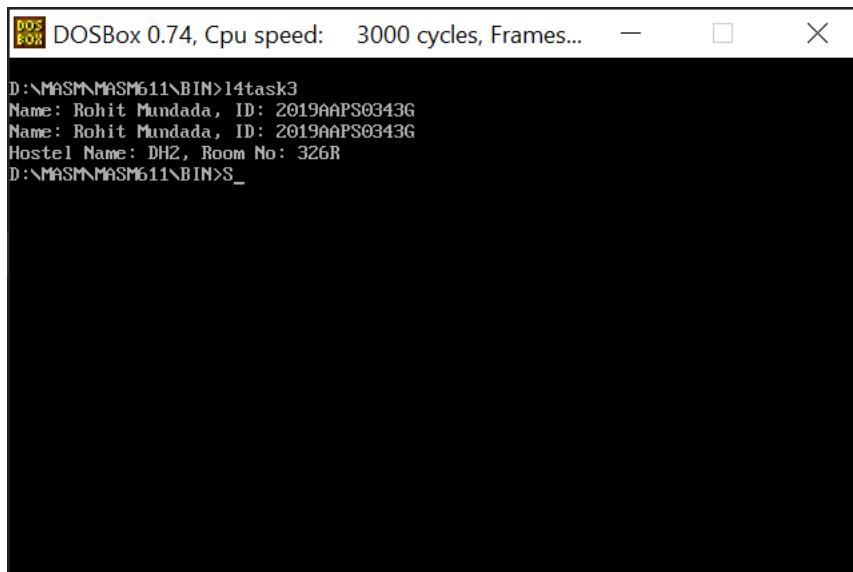
TASK 3

CODE:

```
[10] l4task3.asm
 1    .model tiny
 2    .data
 3    fileName db "l4task1.txt", 0
 4    dat1 db 112 dup('$')
 5    dataCnt equ 111
 6    handle dw ?
 7    .code
 8    .startup
 9        ;opening existing file <l4task1.txt> with RD permission
10        mov ah,3dh
11        mov al,00h
12        lea dx,fileName
13        int 21h
14        mov handle,ax
15
16        ;reading file l4task1.txt
17        mov ah,3fh
18        mov bx,handle
19        mov cx,dataCnt
20        lea dx,dat1
21        int 21h
22
23        ;displaying data on DOSBOX
24        lea dx,dat1
25        mov ah,09h
26        int 21h
```

```
[10] l4task3.asm
27
28        ;closing l4task1.txt
29        mov ah,3eh
30        mov bx,handle
31        int 21h
32    .exit
33    end
```

OUTPUT: [Showing data from L4TASK1.TXT in DOSBOX]

```
DOSBox 0.74, Cpu speed:    3000 cycles, Frames...    —    □    ✕

D:\MASM\MASM611\BIN>l4task3
Name: Rohit Mundada, ID: 2019AAPS0343G
Name: Rohit Mundada, ID: 2019AAPS0343G
Hostel Name: DH2, Room No: 326R
D:\MASM\MASM611\BIN>S_
```
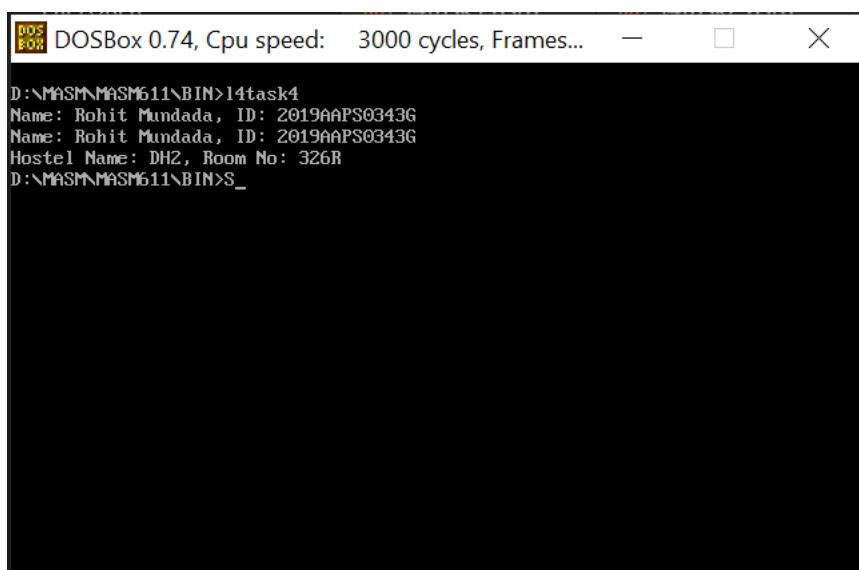
TASK 4

CODE:

```
l4task4.asm
1    .model tiny
2    .data
3    fileName db "l4task1.txt", 0
4    dat1 db 112 dup('$')
5    handle dw ?
6    .code
7    .startup
8        ;opening existing file <l4task1.txt> with RD permission
9        mov ah,3dh
10       mov al,00h
11       lea dx,fileName
12       int 21h
13       mov handle,ax
14
15       ;reading file l4task1.txt byte-by-byte
16       mov ah,42h
17       mov al,02h   ;relative to end of file
18       mov bx,handle
19       mov cx,0f000h    ;gving -ve value to cx, so pointer will move backwards
20   x1: mov ah,3fh
21       dec cx  ;decreasing cx by one, to read 1 byte of data at a time
22       lea dx,dat1
23       int 21h
24       cmp ax,cx
25       jae x1
26
```

```
l4task4.asm
27       ;displaying data on DOSBOX
28       lea dx,dat1
29       mov ah,09h
30       int 21h
31
32       ;closing l4task1.txt
33       mov ah,3eh
34       mov bx,handle
35       int 21h
36   .exit
37   end
```

OUTPUT: [Showing Data from L4TASK1.TXT in DOSBOX one byte at a time]


```
DOSBox 0.74, Cpu speed:    3000 cycles, Frames...    —    ☐    ✕

D:\MASM\MASM611\BIN>l4task4
Name: Rohit Mundada, ID: 2019AAPS0343G
Name: Rohit Mundada, ID: 2019AAPS0343G
Hostel Name: DH2, Room No: 326R
D:\MASM\MASM611\BIN>S_
```

TASK 5
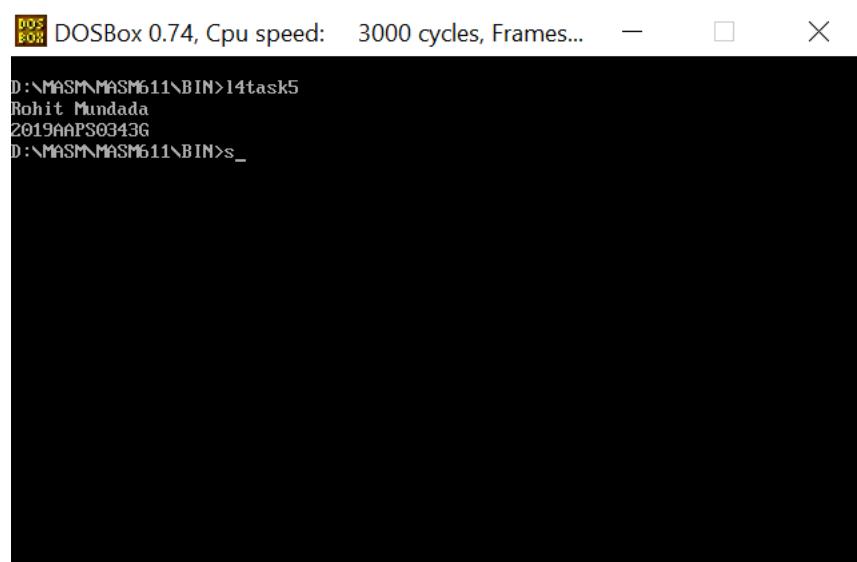
CODE:

```asm
l4task5.asm
 1    .model tiny
 2    .data
 3    fileName db "l4task5.txt", 0
 4
 5    nameMax db 14
 6    nameAct db ?
 7    nameData db 14 dup('$')
 8
 9    newLine db 0dh, 0ah, '$'
10
11    idMax db 14
12    idAct db ?
13    idData db 14 dup("$")
14
15    handle dw ?
16    .code
17    .startup
18        ;get name
19        lea dx,nameMax
20        mov ah,0ah
21        int 21h
22
23        ;go to new line
24        lea dx,newLine
25        mov ah,09h
26        int 21h
```

```asm
l4task5.asm
27
28        ;get id
29        lea dx,idMax
30        mov ah,0ah
31        int 21h
32
33        ;create file l4task5.txt
34        mov ah,3ch
35        lea dx,fileName
36        mov cl,20h
37        int 21h
38        mov handle,ax
39
40        ;write name to file
41        mov ah,40h
42        mov bx,handle
43        mov cl,nameAct
44        mov ch,00h
45        lea dx,nameData
46        int 21h
47
48        ;go to new line
49        mov ah,40h
50        mov bx,handle
51        mov cx,02h
52        lea dx,newLine
```

```
53        int 21h
54
55        ;write id to file
56        mov ah,40h
57        mov bx,handle
58        mov cl,idAct
59        mov ch,00h
60        lea dx,idData
61        int 21h
62
63        ;closing l4task5.txt
64        mov ah,3eh
65        mov bx,handle
66        int 21h
67   .exit
68   end
```

INPUT TAKEN FROM DOSBOX: [Name and ID entered in DOSBOX]

```
DOSBox 0.74, Cpu speed:    3000 cycles, Frames...    —    □    ✕

D:\MASM\MASM611\BIN>l4task5
Rohit Mundada
2019AAPS0343G
D:\MASM\MASM611\BIN>s_
```

OUTPUT: [Output of Data Entered from DOSBOX into file L4TASK5.TXT]

```
L4TASK5.TXT
1    Rohit Mundada
2    2019AAPS0343G
```