

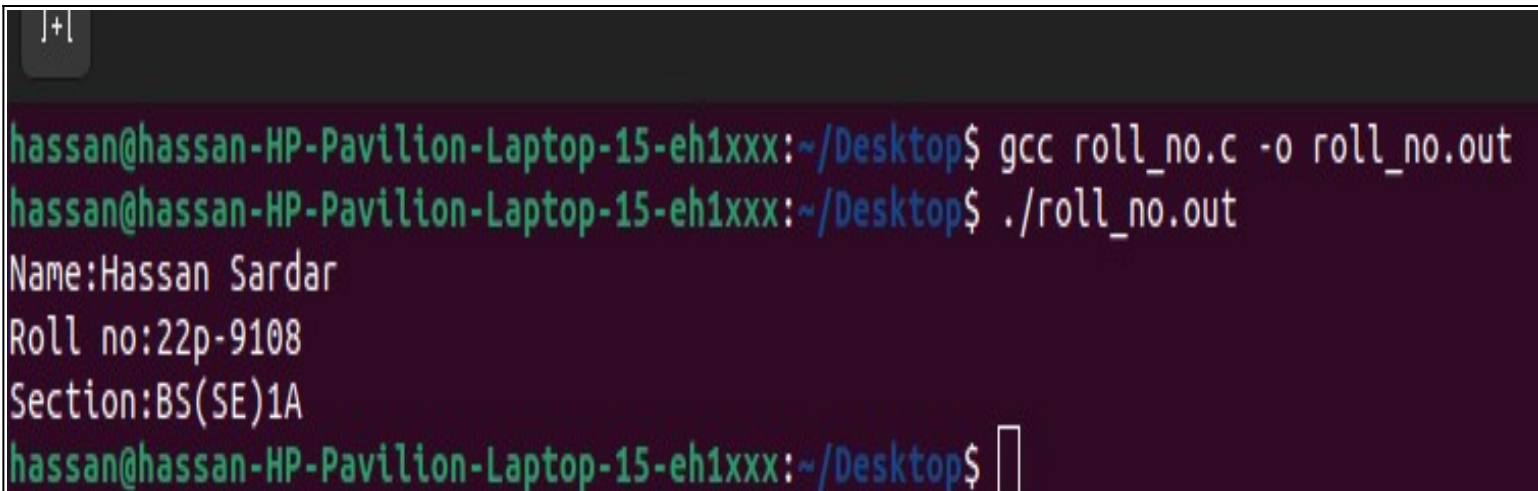
Problem :1

write a C program to print your name , roll no, section in separate lines.

Solution:

```
#include<stdio.h>
int main()
{
printf("Name:Hassan Sardar\n");
printf("Roll no:22p-9108\n");
printf("Section:BS(SE)1A\n");
return 0;
}
```

output



```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ gcc roll_no.c -o roll_no.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ ./roll_no.out
Name:Hassan Sardar
Roll no:22p-9108
Section:BS(SE)1A
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$
```

Problem :2

write a C program that prints the following patterns using printf statement.

Pattern 1	Pattern 2	Pattern 3	Pattern 4
*****	*	*	*
*****	**	**	***
*****	***	***	*****
*****	****	****	***
*****	*****	*****	*

Solution:

```
#include<stdio.h>
int main()
{
printf(" pattern 1\n");
printf("*****\n");
printf("*****\n");
printf("*****\n");
printf("*****\n");
printf("*****\n");
printf("\v\v pattern 2\n");
printf("*\n");
printf("**\n");
printf("***\n");
printf("****\n");
printf("*****\n");
```

```
printf("\v\v pattern 3\n");
printf("\t *\n");
printf("\t **\n");
printf("\t ***\n");
printf("\t ****\n");
printf("\t *****\n");
printf("\t*****\n");
printf("\v\v pattern 4\n");
printf(" *\n");
printf(" ***\n");
printf(" *****\n");
printf(" ***\n");
printf(" *\n");
return 0;
}
```

output

```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ gcc pattern.c -o pattern.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ ./pattern.out

pattern 1
*****
*****
*****
*****
*****

pattern 2
*
**
***
****
*****

pattern 3
      *
     **
    ***
   ****
  *****

pattern 4
*
***
*****
***
*
```

hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop\$

Problem:3

write a C program that calculates the area of a rectangle and print the result on screen.

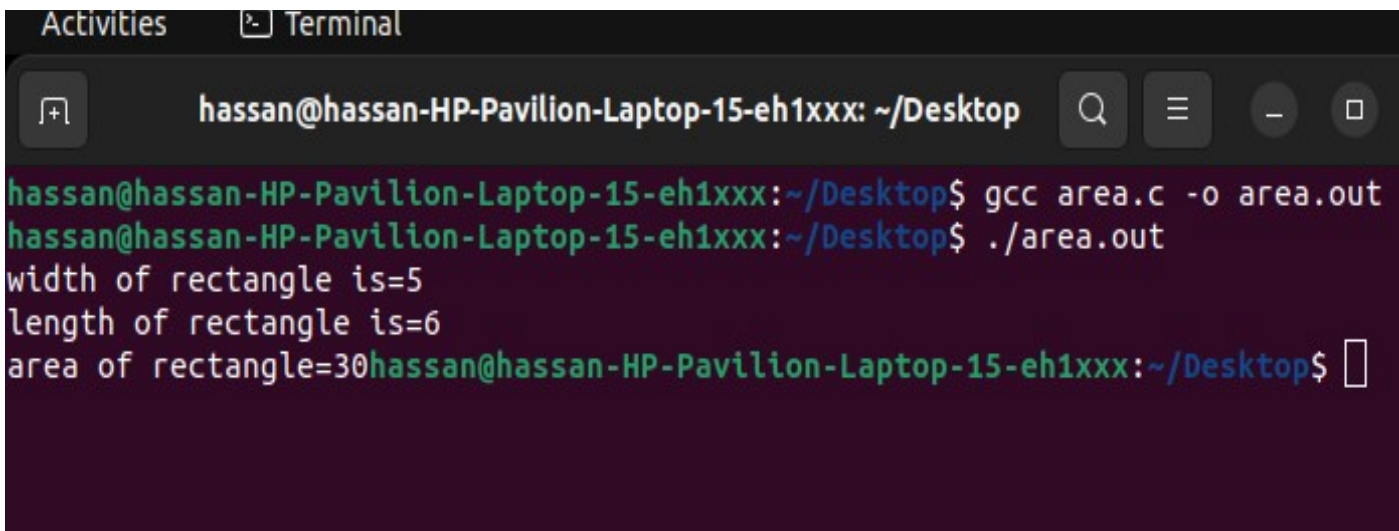
The formula to calculate the area of rectangle is given below:

$$A=W*I$$

Solution:

```
#include <stdio.h>
int main ()
{
    int width=5;
    int length=6;
    int area=width*length;
    printf("width of rectangle is=%d\n",width);
    printf("length of rectangle is=%d\n",length);
    printf("area of rectangle=%d",area);
    return 0;
}
```

Output

A screenshot of a Linux terminal window. The title bar shows 'Activities' and 'Terminal'. The terminal content shows the user 'hassan' at a laptop with IP '15-eh1xxx' in the directory '~/Desktop'. The user runs 'gcc area.c -o area.out' to compile a C program. Then, they run './area.out' to execute it. The program outputs three lines: 'width of rectangle is=5', 'length of rectangle is=6', and 'area of rectangle=30'. The prompt returns to the user.

```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx: ~/Desktop
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ gcc area.c -o area.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ ./area.out
width of rectangle is=5
length of rectangle is=6
area of rectangle=30hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$
```

Problem:4

write a program that takes the length, width and height of a parrallelepiped from user and find its volume. The formula to calculate the volume is given below.

Volume=Length*Width*Height

your program should work as shown below.

Enter the Length of parrallelepiped 2

Enter the width of parrallelepiped 3

Enter the height of parrallelepiped 4

the area of parrallelepiped is 24

Solution:

```
#include<stdio.h>
int main()
{
int length=2;
int width=3;
int height=4;
int volume=length*width*height;
printf("Length of parallelepiped %d\n",length);
printf("Width of parallelepiped %d\n",width);
printf("Height of parallelepiped %d\n",height);
printf("The volume of parallelepiped is %d\n",volume);
return 0;
}
```



```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ gcc volume.c -o volume.o
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$ ./volume.out
Length of parallelepiped 2
Width of parallelepiped 3
Height of parallelepiped 4
The volume of parallelepiped is 24
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop$
```