

PRACTICE LAB ASSIGNMENT 3

1. Write a program to check whether a year entered by the user is a leap year or not. (Make use of % operator).

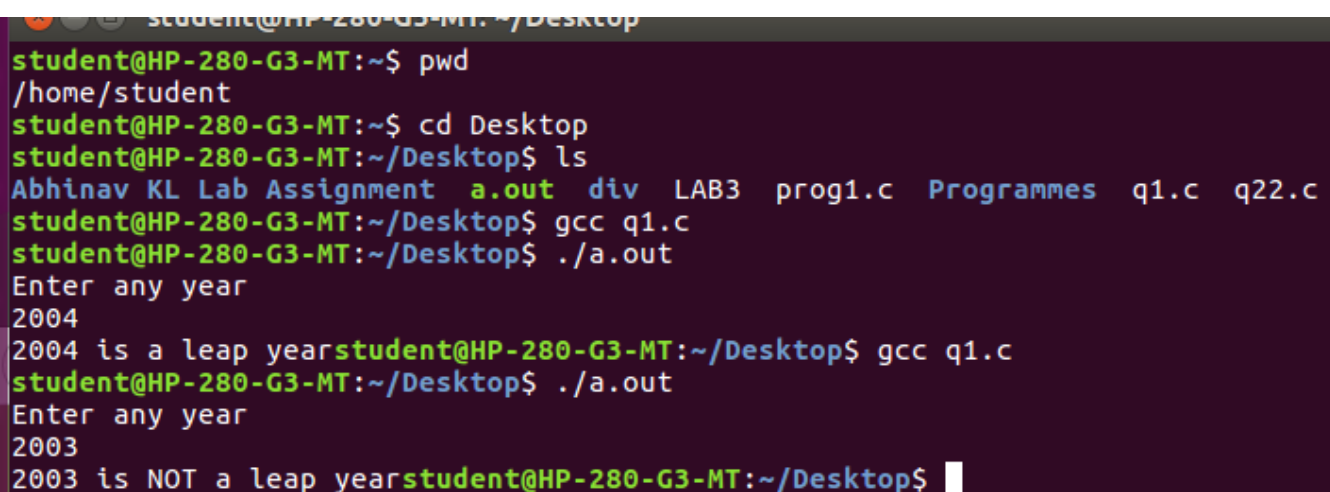
CODE

```
#include<stdio.h>

int main()
{
    int n;
    printf("Enter any year\n");
    scanf("%d", &n);
    if(n%4 == 0)
        printf("%d is a leap year", n);
    else
        printf("%d is NOT a leap year", n);
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int n;
    printf("Enter any year\n");
    scanf("%d", &n);
    if(n%4 == 0)
        printf("%d is a leap year", n);
    else
        printf("%d is NOT a leap year", n);
    return 0;
}
```

SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  a.out  div  LAB3  prog1.c  Programmes  q1.c  q22.c
student@HP-280-G3-MT:~/Desktop$ gcc q1.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any year
2004
2004 is a leap year
student@HP-280-G3-MT:~/Desktop$ gcc q1.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any year
2003
2003 is NOT a leap year
student@HP-280-G3-MT:~/Desktop$
```

NAME: REYA JESLYN SAHAYA SAMUEL

ROLL NO.: 2210110505

2. Using conditional operator, determine:

(a) Whether the character entered through the keyboard is a lower case alphabet or not.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
char c;
```

```
printf("Enter a alphabet to know if it's a lowercase character");
```

```
scanf("%c", &c);
```

```
if (97 <= c && c <= 122)
```

```
printf("Your letter is a lowercase character");
```

```
else
```

```
printf("Your letter is NOT a lowercase character");
```

```
}
```

```
1#include<stdio.h>
2void main()
3{
4char c;
5printf("Enter a alphabet to know if it's a lowercase
character");
6scanf("%c", &c);
7if (97 <= c && c <= 122)
8printf("Your letter is a lowercase character");
9else
10printf("Your letter is NOT a lowercase character");
11}
```

SS of the OUTPUT

```
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  intro-code  q2.1.c  q2.2.c
student@HP-280-G3-MT:~/Desktop$ gcc q2.1.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a alphabet to know if it's a lowercase character r
Your letter is a lowercase character
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a alphabet to know if it's a lowercase character R
Your letter is NOT a lowercase character
student@HP-280-G3-MT:~/Desktop$
```

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(b) Whether the character entered through the keyboard is a special symbol or not.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
char c;
```

```
printf("Enter a character to ensure if its a special symbol or not");
```

```
scanf("%c", &c);
```

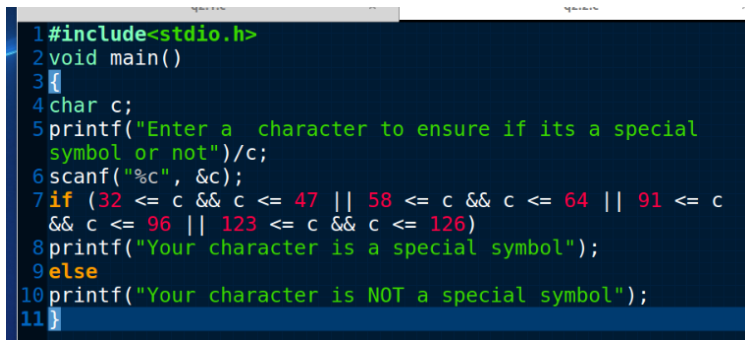
```
if (32 <= c && c <= 47 || 58 <= c && c <= 64 || 91 <= c && c <= 96 || 123 <= c && c <= 126)
```

```
printf("Your character is a special symbol");
```

```
else
```

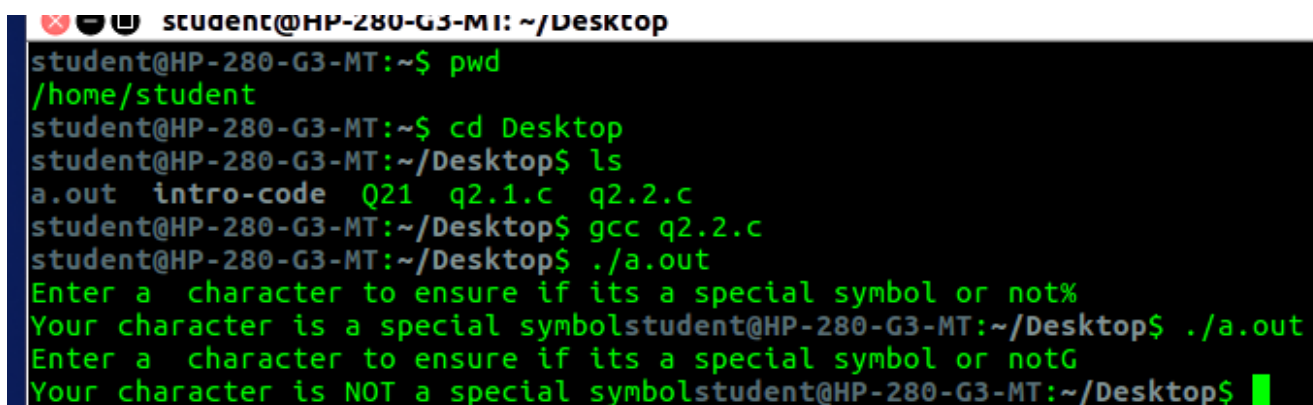
```
printf("Your character is NOT a special symbol");
```

```
}
```



```
1#include<stdio.h>
2void main()
3{
4char c;
5printf("Enter a character to ensure if its a special
6symbol or not");
7scanf("%c", &c);
8if (32 <= c && c <= 47 || 58 <= c && c <= 64 || 91 <= c
9&& c <= 96 || 123 <= c && c <= 126)
10printf("Your character is a special symbol");
11else
12printf("Your character is NOT a special symbol");
13}
```

SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  intro-code  Q21  q2.1.c  q2.2.c
student@HP-280-G3-MT:~/Desktop$ gcc q2.2.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a character to ensure if its a special symbol or not%
Your character is a special symbolstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a character to ensure if its a special symbol or notG
Your character is NOT a special symbolstudent@HP-280-G3-MT:~/Desktop$
```

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3. Write a Program to input day number (considering Monday to be the 1st Day) and print week day.

CODE

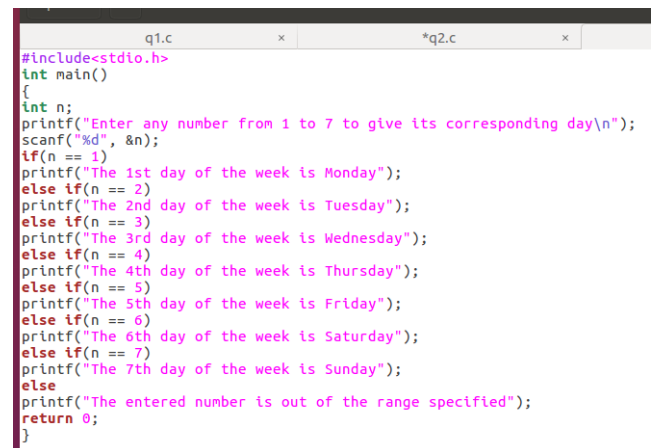
```
#include<stdio.h>

int main()
{
    int n;

    printf("Enter any number from 1 to 7 to give its corresponding day\n");
    scanf("%d", &n);

    if(n == 1)
        printf("The 1st day of the week is Monday");
    else if(n == 2)
        printf("The 2nd day of the week is Tuesday");
    else if(n == 3)
        printf("The 3rd day of the week is Wednesday");
    else if(n == 4)
        printf("The 4th day of the week is Thursday");
    else if(n == 5)
        printf("The 5th day of the week is Friday");
    else if(n == 6)
        printf("The 6th day of the week is Saturday");
    else if(n == 7)
        printf("The 7th day of the week is Sunday");
    else
        printf("The entered number is out of the range specified");

    return 0;
}
```

A screenshot of a code editor window with two tabs: 'q1.c' and '*q2.c'. The 'q1.c' tab is active, displaying the following C code:

```
#include<stdio.h>
int main()
{
    int n;
    printf("Enter any number from 1 to 7 to give its corresponding day\n");
    scanf("%d", &n);
    if(n == 1)
        printf("The 1st day of the week is Monday");
    else if(n == 2)
        printf("The 2nd day of the week is Tuesday");
    else if(n == 3)
        printf("The 3rd day of the week is Wednesday");
    else if(n == 4)
        printf("The 4th day of the week is Thursday");
    else if(n == 5)
        printf("The 5th day of the week is Friday");
    else if(n == 6)
        printf("The 6th day of the week is Saturday");
    else if(n == 7)
        printf("The 7th day of the week is Sunday");
    else
        printf("The entered number is out of the range specified");
    return 0;
}
```

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SS of the OUTPUT

```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment  div   prog1.c    Q1    q22.c  q3.c
a.out                     LAB3  Programmes q1.c  q2.c
student@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
1
The 1st day of the week is Mondaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
2
The 2nd day of the week is Tuesdaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
3
The 3rd day of the week is Wednesdaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
4
The 4th day of the week is Thursdaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
5
The 5th day of the week is Fridaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
6
The 6th day of the week is Saturdaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
7
The 7th day of the week is Sundaystudent@HP-280-G3-MT:~/Desktop$ gcc q3.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number from 1 to 7 to give its corresponding day
8
The entered number is out of the range specifiedstudent@HP-280-G3-MT:~/Desktop$
```

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ROLL NO.: 2210110505

4. Write a C program to input month number and print number of days in that month.

CODE

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int n;
```

```
printf("Enter a number between 1 to 12 corresponding to its month to find the number of  
days that month contains\n");
```

```
scanf("%d", &n);
```

```
if(n == 1)
```

```
printf("January contains 31 days");
```

```
else if(n == 3)
```

```
printf("March contains 31 days");
```

```
else if(n == 5)
```

```
printf("May contains 31 days");
```

```
else if(n == 7)
```

```
printf("July contains 31 days");
```

```
else if(n == 8)
```

```
printf("August contains 31 days");
```

```
else if(n == 10)
```

```
printf("October contains 31 days");
```

```
else if(n == 12)
```

```
printf("December contains 31 days");
```

```
else if(n == 4)
```

```
printf("April contains 30 days");
```

```
else if(n == 6)
```

```
printf("June contains 30 days");
```

```
#include<stdio.h>
int main()
{
    int n;
    printf("Enter a number between 1 to 12 corresponding to its month to find the number of days th
month contains\n");
    scanf("%d", &n);
    if(n == 1)
        printf("January contains 31 days");
    else if(n == 3)
        printf("March contains 31 days");
    else if(n == 5)
        printf("May contains 31 days");
    else if(n == 7)
        printf("July contains 31 days");
    else if(n == 8)
        printf("August contains 31 days");
    else if(n == 10)
        printf("October contains 31 days");
    else if(n == 12)
        printf("December contains 31 days");
    else if(n == 4)
        printf("April contains 30 days");
    else if(n == 6)
        printf("June contains 30 days");
    else if(n == 9)
        printf("September contains 30 days");
    else if(n == 11)
        printf("November contains 30 days");
    else if(n == 2)
        printf("February contains 28 days but can also have 29 days on a leap year");
    else
        printf("The entered number is out of the range specified");
    return 0;
}
```

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```
else if(n == 9)

printf("September contains 30 days");

else if(n == 11)

printf("November contains 30 days");

else if(n == 2)

printf("February contains 28 days but can also have 29 days on a leap year");

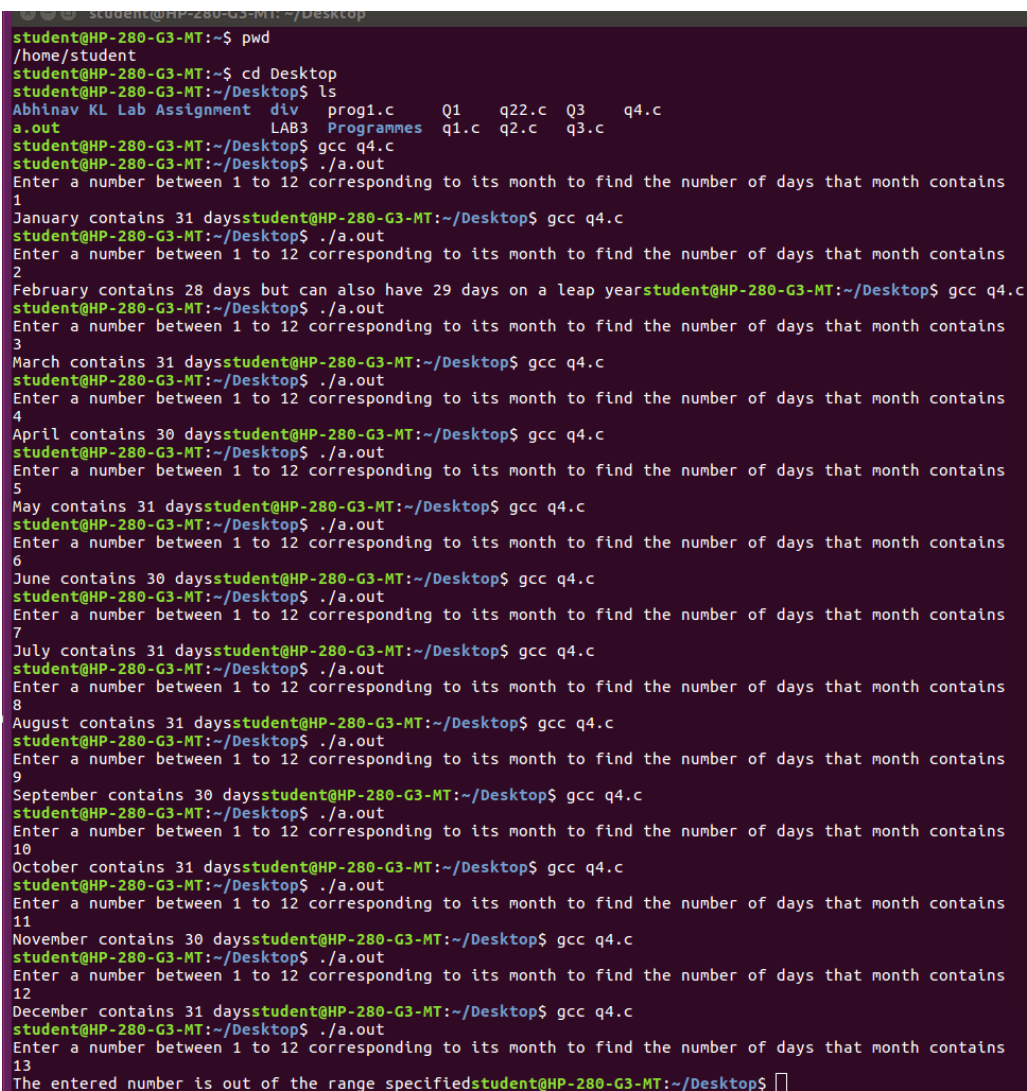
else

printf("The entered number is out of the range specified");

return 0;

}
```

SS of the OUTPUT



```
student@HP-280-G3-MT: ~/Desktop
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
Abhinav KL Lab Assignment div prog1.c Q1 q22.c Q3 q4.c
a.out LAB3 Programmes q1.c q2.c q3.c
student@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
1
January contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
2
February contains 28 days but can also have 29 days on a leap yearstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
3
March contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
4
April contains 30 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
5
May contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
6
June contains 30 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
7
July contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
8
August contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
9
September contains 30 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
10
October contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
11
November contains 30 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
12
December contains 31 daysstudent@HP-280-G3-MT:~/Desktop$ gcc q4.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter a number between 1 to 12 corresponding to its month to find the number of days that month contains
13
The entered number is out of the range specifiedstudent@HP-280-G3-MT:~/Desktop$
```

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5. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:

Percentage $\geq 90\%$: Grade A

Percentage $\geq 80\%$: Grade B

Percentage $\geq 70\%$: Grade C

Percentage $\geq 60\%$: Grade D

Percentage $\geq 40\%$: Grade E

Percentage $< 40\%$: Grade F

CODE

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int n, phy, chem, bio, mat, comp;
```

```
printf("Enter the marks between 0 to 100 for each subject in the given order: Physics,  
Chemistry, Biology, Mathematics, Computer")/phy, chem, bio, mat, comp;
```

```
scanf("%d%d%d%d%d", &phy, &chem, &bio, &mat, &comp);
```

```
n = (phy + chem + bio + mat + comp)/5;
```

```
if(n > 100)
```

```
printf("One of the entered number is out of the range specified");
```

```
else if(n  $\geq 90$ )
```

```
printf("%d is a grade A", n);
```

```
else if(n  $\geq 80$ )
```

```
printf("%d is a grade B", n);
```

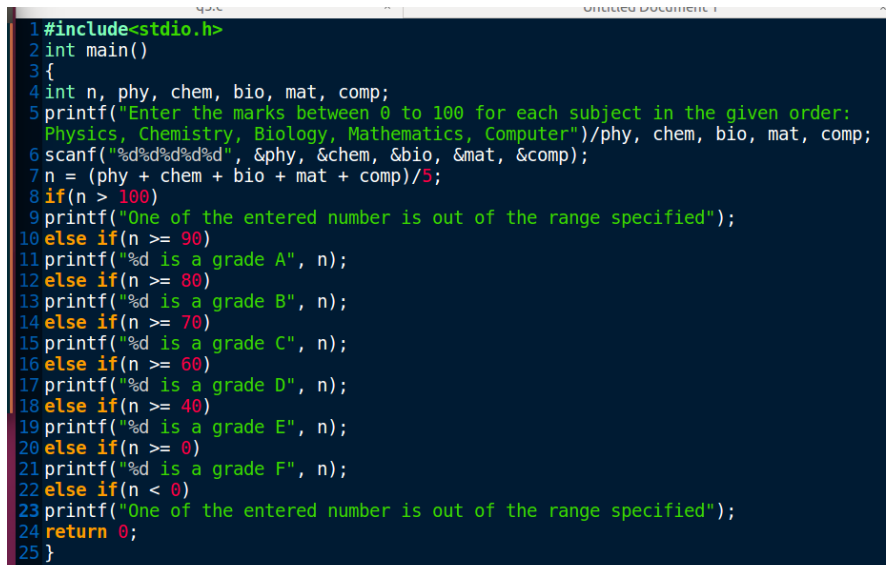
```
else if(n  $\geq 70$ )
```

```
printf("%d is a grade C", n);
```

```
else if(n  $\geq 60$ )
```

```
printf("%d is a grade D", n);
```

```
else if(n  $\geq 40$ )
```



```
1#include<stdio.h>
2int main()
3{
4int n, phy, chem, bio, mat, comp;
5printf("Enter the marks between 0 to 100 for each subject in the given order:
Physics, Chemistry, Biology, Mathematics, Computer")/phy, chem, bio, mat, comp;
6scanf("%d%d%d%d%d", &phy, &chem, &bio, &mat, &comp);
7n = (phy + chem + bio + mat + comp)/5;
8if(n > 100)
9printf("One of the entered number is out of the range specified");
10else if(n  $\geq 90$ )
11printf("%d is a grade A", n);
12else if(n  $\geq 80$ )
13printf("%d is a grade B", n);
14else if(n  $\geq 70$ )
15printf("%d is a grade C", n);
16else if(n  $\geq 60$ )
17printf("%d is a grade D", n);
18else if(n  $\geq 40$ )
19printf("%d is a grade E", n);
20else if(n  $\geq 0$ )
21printf("%d is a grade F", n);
22else if(n < 0)
23printf("One of the entered number is out of the range specified");
24return 0;
25}
```


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```
printf("%d is a grade E", n);
```

```
else if(n >= 0)
```

```
printf("%d is a grade F", n);
```

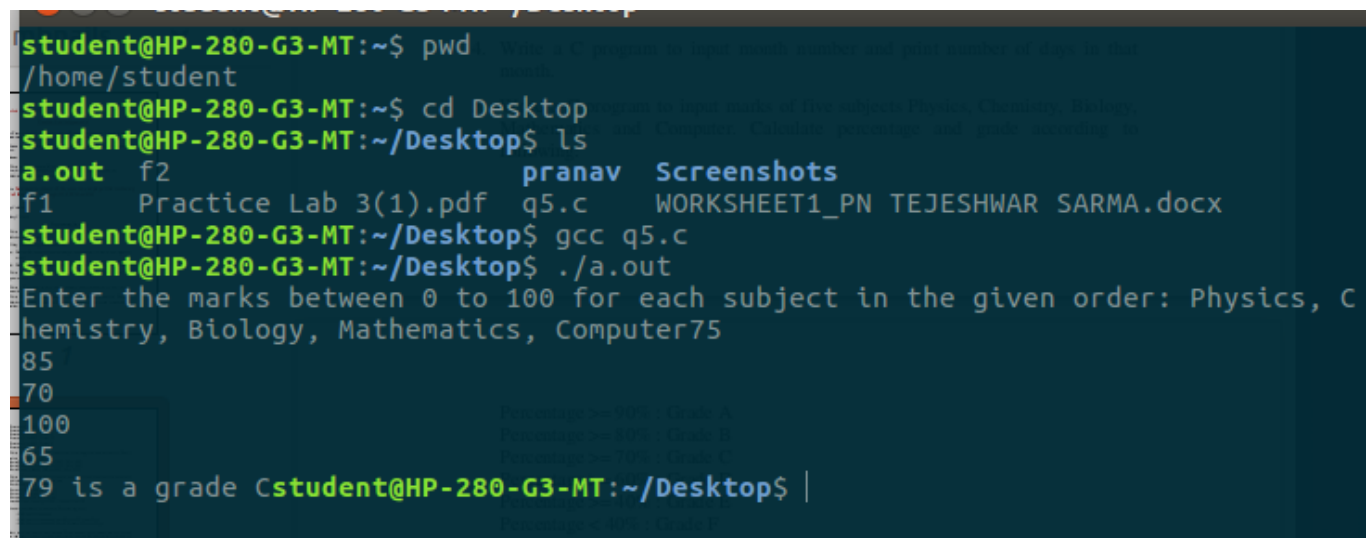
```
else if(n < 0)
```

```
printf("One of the entered number is out of the range specified");
```

```
return 0;
```

```
}
```

SS of the OUTPUT



```
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  f2          pranav  Screenshots
f1     Practice Lab 3(1).pdf  q5.c    WORKSHEET1_PN TEJESHWAR SARMA.docx
student@HP-280-G3-MT:~/Desktop$ gcc q5.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the marks between 0 to 100 for each subject in the given order: Physics, Chemistry, Biology, Mathematics, Computer
75
85
70
100
65
79 is a grade C
student@HP-280-G3-MT:~/Desktop$
```

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6. Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary \leq 10000 : HRA = 20%, DA = 80%

Basic Salary \leq 20000 : HRA = 25%, DA = 90%

Basic Salary $>$ 20000 : HRA = 30%, DA = 95%

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
int bs;
```

```
float gs, n;
```

```
printf("Enter the basic salary of an employee above Rs. 0")/bs;
```

```
scanf("%d", &bs);
```

```
if(bs  $\geq$  0 && bs  $\leq$  10000)
```

```
n = bs * 0.2 * 0.8;
```

```
else if(bs  $\leq$  20000 && bs  $>$  10000)
```

```
n = bs * 0.25 * 0.9;
```

```
else if(bs  $>$  20000)
```

```
n = bs * 0.3 * 0.95;
```

```
gs = bs + n;
```

```
printf("The Gross salary of the employee is %f", gs);
```

```
}
```

SS of the OUTPUT

```
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  intro-code  q6.c
student@HP-280-G3-MT:~/Desktop$ gcc q6.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the basic salary of an employee above Rs. 010000
The Gross salary of the employee is 11600.000000student@HP-280-G3-MT:~/Desktop$
./a.out
Enter the basic salary of an employee above Rs. 020000
The Gross salary of the employee is 24500.000000student@HP-280-G3-MT:~/Desktop$
./a.out
Enter the basic salary of an employee above Rs. 030000
The Gross salary of the employee is 38550.000000student@HP-280-G3-MT:~/Desktop$
```

```
1#include<stdio.h>
2void main()
3{
4int bs;
5float gs, n;
6printf("Enter the basic salary of an employee above Rs. 0")/bs;
7scanf("%d", &bs);
8if(bs  $\geq$  0 && bs  $\leq$  10000)
9n = bs * 0.2 * 0.8;
10else if(bs  $\leq$  20000 && bs  $>$  10000)
11n = bs * 0.25 * 0.9;
12else if(bs  $>$  20000)
13n = bs * 0.3 * 0.95;
14
15gs = bs + n;
16printf("The Gross salary of the employee is %f", gs);
17}
```

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ROLL NO.: 2210110505

7. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
float u, n, t;
```

```
printf("Enter your electricty unit charges")/u;
```

```
scanf("%f%f%f", &u, &n, &t);
```

```
if(u < 0)
```

```
printf("The entered number is out of range/invlaid so ");
```

```
else if(u <= 50)
```

```
n = (u * 0.5);
```

```
else if(u <= 150)
```

```
n = 25 + ((u - 50) * 0.75);
```

```
else if(u <= 250)
```

```
n = 100 + ((u - 150) * 1.2);
```

```
else if(u > 250)
```

```
n = 220 + ((u - 250) * 1.5);
```

```
t = n + (n * 0.2);
```

```
printf("The total electricity bill including the 20 percent additional surcharge is %f", t);
```

```
}
```

```
#include<stdio.h>
void main()
{
float u, n, t;
printf("Enter your electricty unit charges")/u;
scanf("%f%f%f", &u, &n, &t);
if(u < 0)
printf("The entered number is out of range/invlaid so ");
else if(u <= 50)
n = (u * 0.5);
else if(u <= 150)
n = 25 + ((u - 50) * 0.75);
else if(u <= 250)
n = 100 + ((u - 150) * 1.2);
else if(u > 250)
n = 220 + ((u - 250) * 1.5);
t = n + (n * 0.2);
printf("The total electricity bill including the 20 percent additional surcharge is %f", t);
}
```

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ROLL NO.: 2210110505

SS of the OUTPUT

```
guest-2ghlp1@HP-280-G3-MT: ~/Desktop
guest-2ghlp1@HP-280-G3-MT:~$ pwd
/tmp/guest-2ghlp1
guest-2ghlp1@HP-280-G3-MT:~$ cd Desktop
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ls
a.out  q6.c  q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your electricity unit charges50
./a.out
The total electricity bill including the 20 percent additional surcharge is 30.0
000000guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your electricity unit charges100
./a.out
The total electricity bill including the 20 percent additional surcharge is 75.0
000000guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your electricity unit charges200
./a.out
The total electricity bill including the 20 percent additional surcharge is 192.
0000000guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your electricity unit charges300
./a.out
The total electricity bill including the 20 percent additional surcharge is 354.
0000000guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q7.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your electricity unit charges-3
./a.out
The entered number is out of range/invlaid so The total electricity bill includi
ng the 20 percent additional surcharge is 0.0000000guest-2ghlp1@HP-280-G3-MT:~/De
sktop$ █
```

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8. A company insures its drivers in the following cases:

- If the driver is married.
- If the driver is unmarried, male & above 30 years of age.
- If the driver is unmarried, female & above 25 years of age.

In all other cases the driver is not insured. If the marital status, gender and age of the driver are the inputs, write a program to determine whether the driver is to be insured or not.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
char m, g;
```

```
int a;
```

```
printf("Enter your marital status Y/N, gender M/F, age in one line")/m, g, a;
```

```
scanf("%c%c%d", &m, &g, &a);
```

```
if (m == 'Y')
```

```
printf("You are insured by the company");
```

```
else if(m == 'N' && g == 'M' && a > 30 || m == 'N' && g == 'F' && a > 25)
```

```
printf("You are insured by the company");
```

```
else if(m == 'N' && g == 'M' && a <= 30 || m == 'N' && g == 'F' && a <= 25)
```

```
printf("You are NOT insured by the company");
```

```
}
```

```
1#include<stdio.h>
2void main()
3{
4char m, g;
5int a;
6printf("Enter your marital status Y/N, gender M/F, age in
one line")/m, g, a;
7scanf("%c%c%d", &m, &g, &a);
8if (m == 'Y')
9printf("You are insured by the company");
10else if(m == 'N' && g == 'M' && a > 30 || m == 'N' && g
== 'F' && a > 25)
11printf("You are insured by the company");
12else if(m == 'N' && g == 'M' && a <= 30 || m == 'N' && g
== 'F' && a <= 25)
13printf("You are NOT insured by the company");
14}
```

SS of the OUTPUT

```
student@HP-280-G3-MT:~/Desktop$ pwd
/home/student
student@HP-280-G3-MT:~/Desktop$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
a.out  intro-code  q10.c  q8.c
student@HP-280-G3-MT:~/Desktop$ gcc q8.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your marital status Y/N, gender M/F, age in one lineYM18
You are insured by the companystudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your marital status Y/N, gender M/F, age in one lineNM18
You are NOT insured by the companystudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your marital status Y/N, gender M/F, age in one lineMF31
You are insured by the companystudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your marital status Y/N, gender M/F, age in one lineFF18
You are NOT insured by the companystudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter your marital status Y/N, gender M/F, age in one lineFF26
You are insured by the companystudent@HP-280-G3-MT:~/Desktop$
```

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9. Find the absolute value of a number entered through the keyboard.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
float n;
```

```
printf("Enter any number to find its absolute value")/n;
```

```
scanf("%f", &n);
```

```
n = (n/(-1));
```

```
printf("The absolute value is %f", n);
```

```
}
```

```
#include<stdio.h>
void main()
{
float n;
printf("Enter any number to find its absolute value")/n;
scanf("%f", &n);
n = (n/(-1));
printf("The absolute value is %f", n);
}
```

SS of the OUTPUT

```
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ pwd
/tmp/guest-2ghlp1
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ cd Desktop
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ls
a.out  q6.c  q7.c  q8.c  q9.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ gcc q9.c
guest-2ghlp1@HP-280-G3-MT:~/Desktop$ ./a.out
Enter any number to find its absolute value-7
The absolute value is 7.000000guest-2ghlp1@HP-280-G3-MT:~/Desktop$
```

10. An Insurance company follows following rules to calculate premium.

- (1) If a person's health is excellent and the person is between 25 and 35 years of age and lives in a city and is a male then the premium is Rs. 4 per thousand and his policy amount cannot exceed Rs. 2 lakhs.
- (2) If a person satisfies all the above conditions except that the gender is female, then the premium is Rs. 3 per thousand and her policy amount cannot exceed Rs. 1 lakh.
- (3) If a person's health is poor and the person is between 25 and 35 years of age and lives in a village and is a male, then the premium is Rs. 6 per thousand and his policy cannot exceed Rs. 10,000.
- (4) In all other cases, the person is not insured.

Write a program to output whether the person should be insured or not, his/her premium rate and maximum amount for which he/she can be insured.

CODE

```
#include<stdio.h>
```

```
void main()
```

```
{
```

```
char h, l, g;
```

```
int a;
```

```
1#include<stdio.h>
2void main()
3{
4char h, l, g;
5int a;
6printf("Enter the following details: Health E/P, Age, Currently
residing in C/V, Gender M/F")/ h, a, l, g;
7scanf("%c%d%c", &h, &a, &l, &g);
8if (h == 'E' && 25 <= a && a <= 35 && l == 'C' && g == 'M')
9printf("You are insured by the company and your premium rate is
Rs. 800 and the maximum amount you can be insured for is Rs. 2
lakhs");
10else if (h == 'E' && 25 <= a && a <= 35 && l == 'C' && g == 'F')
11printf("You are insured by the company and your premium rate is
Rs. 600 and the maximum amount you can be insured for is Rs. 1
lakh");
12else if (h == 'P' && 25 <= a && a <= 35 && l == 'V' && g == 'M')
13printf("You are insured by the company and your premium rate is
Rs. 60 and the maximum amount you can be insured for is Rs.
10,000");
14else if (h == 'P' || 25 >= a && a >= 35 && l == 'C' && g == 'M')
15printf("You are NOT insured by the company");
16else if (h == 'P' || l == 'C' || 25 >= a && a >= 35 && g == 'F')
17printf("You are NOT insured by the company");
18else if (h == 'P' && 25 >= a && a >= 35 && l == 'V' && g == 'M')
19printf("You are NOT insured by the company");
20}
```

```
printf("Enter the following details: Health E/P, Age, Currently residing in C/V, Gender M/F")/
h, a, l, g;
```

```
scanf("%c%d%c", &h, &a, &l, &g);
```

```
if (h == 'E' && 25 <= a && a <= 35 && l == 'C' && g == 'M')
```

```
printf("You are insured by the company and your premium rate is Rs. 800 and the maximum
amount you can be insured for is Rs. 2 lakhs");
```

```
else if (h == 'E' && 25 <= a && a <= 35 && l == 'C' && g == 'F')
```

```
printf("You are insured by the company and your premium rate is Rs. 600 and the maximum
amount you can be insured for is Rs. 1 lakh");
```

```
else if (h == 'P' && 25 <= a && a <= 35 && l == 'V' && g == 'M')
```

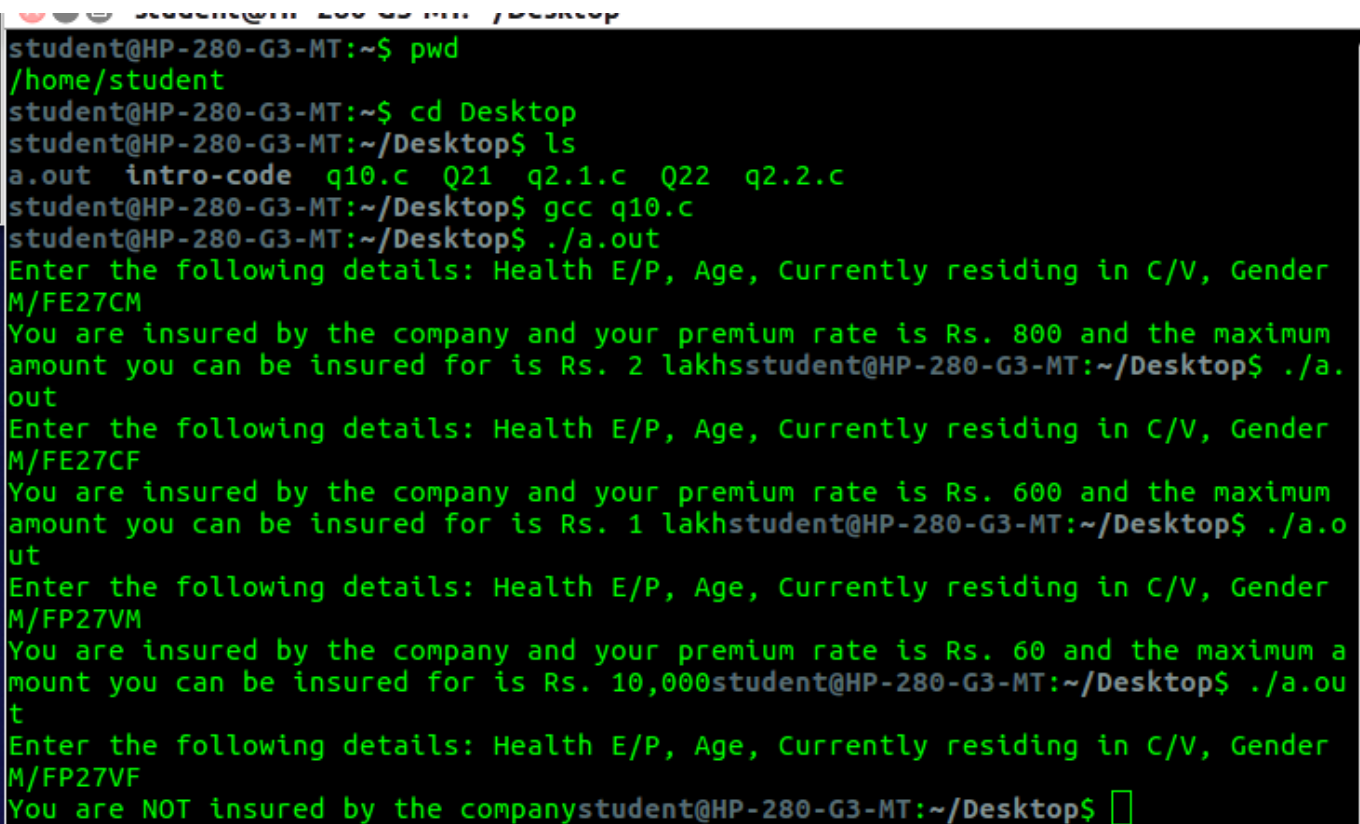
```
printf("You are insured by the company and your premium rate is Rs. 60 and the maximum
amount you can be insured for is Rs. 10,000");
```

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```
else if (h == 'P' || 25 >= a && a >= 35 && l == 'C' && g == 'M')  
  
printf("You are NOT insured by the company");  
  
else if (h == 'P' || l == 'C' || 25 >= a && a >= 35 && g == 'F')  
  
printf("You are NOT insured by the company");  
  
else if (h == 'P' && 25 >= a && a >= 35 && l == 'V' && g == 'M')  
  
printf("You are NOT insured by the company");  
  
}
```

SS of the OUTPUT



```
student@HP-280-G3-MT:~$ pwd  
/home/student  
student@HP-280-G3-MT:~$ cd Desktop  
student@HP-280-G3-MT:~/Desktop$ ls  
a.out  intro-code  q10.c  Q21  q2.1.c  Q22  q2.2.c  
student@HP-280-G3-MT:~/Desktop$ gcc q10.c  
student@HP-280-G3-MT:~/Desktop$ ./a.out  
Enter the following details: Health E/P, Age, Currently residing in C/V, Gender  
M/FE27CM  
You are insured by the company and your premium rate is Rs. 800 and the maximum  
amount you can be insured for is Rs. 2 lakhs  
student@HP-280-G3-MT:~/Desktop$ ./a.out  
Enter the following details: Health E/P, Age, Currently residing in C/V, Gender  
M/FE27CF  
You are insured by the company and your premium rate is Rs. 600 and the maximum  
amount you can be insured for is Rs. 1 lakh  
student@HP-280-G3-MT:~/Desktop$ ./a.out  
Enter the following details: Health E/P, Age, Currently residing in C/V, Gender  
M/FP27VM  
You are insured by the company and your premium rate is Rs. 60 and the maximum a  
mount you can be insured for is Rs. 10,000  
student@HP-280-G3-MT:~/Desktop$ ./a.out  
Enter the following details: Health E/P, Age, Currently residing in C/V, Gender  
M/FP27VF  
You are NOT insured by the company  
student@HP-280-G3-MT:~/Desktop$
```


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11. A library charges a fine for every book returned late. For first 5 days, the fine is 50 paise, for 6-10 days, fine is one rupee and above 10 days, fine is 5 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the fine or the appropriate message.

CODE

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
int n;
```

```
printf("Enter the number of days it has taken to return the book from its return date")/n;
```

```
scanf("%d", &n);
```

```
if (n <= 0)
```

```
printf("The book has not been returned late so no fines are charged");
```

```
else if (n <= 5)
```

```
printf("The book has been returned late so a fine of 0.50 paise has been charged");
```

```
else if (n <= 10)
```

```
printf("The book has been returned late so a fine of 1 rupee has been charged");
```

```
else if (n <= 30)
```

```
printf("The book has been returned late so a fine of 5 rupees has been charged");
```

```
else if (n > 30)
```

```
printf("The book has been returned after 30 days your membership has been cancelled");
```

```
return 0;
```

```
}
```

```
1#include<stdio.h>
2int main()
3{
4int n;
5printf("Enter the number of days it has taken to return
the book from its return date")/n;
6scanf("%d", &n);
7if (n <= 0)
8printf("The book has not been returned late so no fines
are charged");
9else if (n <= 5)
10printf("The book has been returned late so a fine of 0.50
paise has been charged");
11else if (n <= 10)
12printf("The book has been returned late so a fine of 1
rupee has been charged");
13else if (n <= 30)
14printf("The book has been returned late so a fine of 5
rupees has been charged");
15else if (n > 30)
16printf("The book has been returned after 30 days your
membership has been cancelled");
17return 0;
18}
```

SS of the OUTPUT

```
student@HP-280-G3-MT:~$ pwd
/home/student
student@HP-280-G3-MT:~$ cd Desktop
student@HP-280-G3-MT:~/Desktop$ ls
intro.c q11.c
student@HP-280-G3-MT:~/Desktop$ gcc q11.c
student@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date0
The book has not been returned late so no fines are chargedstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date3
The book has been returned late so a fine of 0.50 paise has been chargedstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date7
The book has been returned late so a fine of 1 rupee has been chargedstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date13
The book has been returned late so a fine of 5 rupees has been chargedstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date20
The book has been returned late so a fine of 5 rupees has been chargedstudent@HP-280-G3-MT:~/Desktop$ ./a.out
Enter the number of days it has taken to return the book from its return date35
The book has been returned after 30 days your membership has been cancelledstudent@HP-280-G3-MT:~/Desktop$
```