Use only if condiotion (que 1 to 5)

1. While purchasing certain items, a discount of 10% is offered if the quantity purchased is more than 1000. If quantity and price per item are input through the keyboard, write a program to calculate the total expenses.

```
#include<stdio.h>
int main()
{
  int qty,price,dis=0;
  printf("Enter quantity and price ");
  scanf("%d%d",&qty,&price);

   if(qty>1000)
    dis=10;

printf("total expenses =%d",(qty*price)-(qty*price*dis/100);

return 0;
}
```

2. Input two numbers and check whether they are equal or not.

```
#include<stdio.h>
int main()
{
  int a,b;
  printf("Enter the value for a and b");
  scanf("%d%d",&a,&b);

   if(a-b==0)//if(a==b)
    printf("both number are equal");

return 0;
}
```

3. Write a C program to read the age of a candidate and determine whether it is eligible for casting his/her own vote.

```
#include<stdio.h>
int main()
{
  int age;
  printf("Enter age");
  scanf("%d",&age);

   if(age>=18)
    printf("you are eligible for vote");
```

```
return 0;
}
```

4. check if 3 nos are taken through input if yes,then multiply and add them.

```
#include<stdio.h>
int main()
{
  int a,b,c,x;
  printf("Enter three no ");
  x=scanf("%d%d%d",&a,&b,&c);

   if(x==3)
   {
    printf("addtion of three no=%d",a+b+c);
    printf("product of three no=%d",a*b*c);
   }

return 0;
}
```

5. The current year and the year in which the employee joined the organization are entered through the keyboard. If the number of years for which the employee has served the organization is greater than 3 then a bonus of Rs. 2500/- is given to the employee. If the years of service are not greater than 3, then the program should do nothing

```
#include<stdio.h>
int main()
{
  int cy,jy;
  printf("Enter current year and joining year ");
  scanf("%d%d",&cy,&jy);

   if((cy-jy)>3)

        printf("You got bonus of rs 2500”);

return 0;
}
```

6. WAP to calculate energy bill .Read the starting and ending metre readings . if the consumed electricity energy is greater than or equal to 200 units the rate should be 2.50 /unit otherwise 1.50/unit.

```
#include<stdio.h>
int main()
{
 int start,end,consumed;
```

```
printf("Enter  meter reading start and end");
scanf("%d%d",&start,&end);
consumed=end-start;

if(consumed>=200)
  printf("your electricity bill is=%.2f",consumed*2.5f);
else
  printf("your electricity bill is=%.2f",consumed*1.5f);

return 0;

}
```

7. In a company an employee is paid as under: If his basic salary is less than Rs. 1500, then HRA = 10% of basic salary and DA = 90% of basic salary. If his salary is either equal to or above Rs. 1500, then HRA = Rs. 500 and DA = 98% of basic salary. If the employee's salary is input through the keyboard write a program to find his gross salary.
8. If cost price and selling price of an item is input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss he incurred

9. A five-digit number is entered through the keyboard. Write a program to obtain the reversed number and to determine whether the original and reversed numbers are equal or not.

10. Write a C program to find maximum between three numbers.

```
#include<stdio.h>
int main()
{
  int a,b,c;
  printf("Enter value for a , b and c");
  scanf("%d%d%d",&a,&b,&c);

  if(a>b)
  {
    if(a>c)
      printf("%d is greater",a);
    else
      printf("%dis greater",c);
  }
  else
    {
      if(b>c)
        printf("%d is greater",b);
      else
```

```
            printf("%d is greater ",c);
        }
    return 0;

}
```

11. If the ages of Ram, Shyam and Ajay are input through the keyboard, write a program to determine the youngest of the three.

```
#include<stdio.h>
int main()
{
    int ram,shyam,ajay;
    printf("Enter age of ram,shyam ,ajay");
    scanf("%d%d%d",&ram,&shyam,&ajay);

    if(ram<shyam)
    {
        if(ram<ajay)
            printf("Ram  is youngest");
        else
            printf("Ajay is youngest");
    }
    else
        {
          if(shyam<ajay)
              printf("shayam is youngest");
           else
              printf("Ajay is youngest ");
        }
    return 0;

}
```

12. Write a program to check whether a triangle is valid or not, when the three angles of the triangle are entered through the keyboard. A triangle is valid if the sum of all the three angles is equal to 180 degrees.

```
#include <stdio.h>
int main()
{
    int angle1, angle2, angle3, sum;
    printf("Enter three angles of triangle: \n");
    scanf("%d%d%d", &angle1, &angle2, &angle3);

    /* Calculate sum of angles */
```

```
    sum = angle1 + angle2 + angle3;
    /*
     * If sum of angles is 180 and
     * angle1, angle2, angle3 is not 0 then
     * triangle is valid.
     */
    if(sum == 180 && angle1 > 0 && angle2 > 0 && angle3 > 0)
    {
       printf("Triangle is valid.");
    }
    else
    {
       printf("Triangle is not valid.");
    }

    return 0;
}
```

13. Given the length and breadth of a rectangle, write a program to find whether the area of the rectangle is greater than its perimeter. For example, the area of the rectangle with length = 5 and breadth = 4 is greater than its perimeter.
14. Given three points (x1, y1), (x2, y2) and (x3, y3), write a program to check if all the three points fall on one straight line.

Solve below program by Nested if else , if ladder(logical operator) and elseif

15. Write a C program to find maximum between two numbers.

```
#include<stdio.h>
int main()
{
 int a,b;

 printf("Enter the value for a and b");
 scanf("%d%d",&a,&b);

 if(a>b)
   printf("%d is greater",a);
 else
    printf("%d is greater",b);

 return 0;

}
```

16. Write a C program to check whether a number is negative, positive .

```
int main()
{
   int num;
```

```
    /* Input number from user */
    printf("Enter any number: ");
    scanf("%d", &num);
    if(num > 0)
    {
       printf("Number is POSITIVE");
    }
    else
    {
       printf("Number is NEGATIVE");
    }
  return 0;
          }
```

17. Write a C program to check whether a number is negative, positive or zero.

```
#include <stdio.h>

int main()
{
   int num;

   /* Input number from user */
   printf("Enter any number: ");
   scanf("%d", &num);
   if(num > 0)
   {
      printf("Number is POSITIVE");
   }
   if(num < 0)
   {
      printf("Number is NEGATIVE");
   }
   if(num == 0)
   {
      printf("Number is ZERO");
   }

   return 0;
}
```

18. Write a C program to check whether a number is divisible by 5 and 11 or not.

```
#include<stdio.h>
int main()
{
 int no;

 printf("Enter the value of n");
 scanf("%d",&no);
```

```
 if(no%5==0 && no%11==0)
  printf("%d is divisible by both 5 and 11",no);
 else
  printf("%d is not divisible by both 5 and 11",no);

 return 0;

}
```

19. Write a C program to check whether a number is even or odd.

```
#include<stdio.h>
int main()
{
 int no;

 printf("Enter the value of n");
 scanf("%d",&no);

 if(no%2==0)
  printf("%d is even",no);
 else
   printf("%d is odd",no);

 return 0;

}
```

20. Write a C program to check whether a year is leap year or not.

```
#include <stdio.h>
int main()
{
   int year;

   printf("Enter year : ");
   scanf("%d", &year);

   if(((year % 4 == 0) && (year % 100 !=0)) || (year % 400==0))
   {
      printf("LEAP YEAR");
   }
   else
   {
      printf("COMMON YEAR");
   }

   return 0;
}
```

21. Write a C program to check whether a character is alphabet or not.

```
#include<stdio.h>
int main()
{
 char ch;
 printf("Enter the character value");
 scanf("%c",&ch);

 if(ch>='a'&&ch<='z'||ch>='A'&&ch<='Z') // or  if(ch>=97&&ch<=122||ch>=65&&ch<=90)
  printf("%c is alphabet",ch);
 else
  printf("%c is not alphabet",ch);

 return 0;
}
```

22. Write a C program to input any alphabet and check whether it is vowel or consonant.

```
#include<stdio.h>
int main()
{
 char ch;
 printf("Enter  any alphabet value");
 scanf("%c",&ch);
 if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u'||ch=='A'||ch=='E'||ch=='I'||ch=='O'||ch=='U')
  printf("%c is vowel",ch);
 else
  printf("%c is consonent",ch);
 return 0;
}
```

23. Write a C program to input any character and check whether it is alphabet, digit or special character.

Method 1

```
#include <stdio.h>
int main()
{
   char ch;
   printf("Enter any character: ");
   scanf("%c", &ch);

  if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
   {
      printf("'%c' is alphabet.", ch);
   }
   else if(ch >= '0' && ch <= '9')
   {
      printf("'%c' is digit.", ch);
```

```
    }
    else
    {
       printf("'%c' is special character.", ch);
    }

    return 0;
}
```

Method 2
using ASCII value

```
#include <stdio.h>
int main()
{
    char ch;
    printf("Enter any character: ");
    scanf("%c", &ch);
    if((ch >= 97 && ch <= 122) || (ch >= 65 && ch <= 90))
    {
       printf("'%c' is alphabet.", ch);
    }
    else if(ch >= 48 && ch <= 57)
    {
       printf("'%c' is digit.", ch);
    }
    else
    {
       printf("'%c' is special character.", ch);
    }

    return 0;
}
```

24. Write a C program to check whether a alphabet is uppercase or lowercase alphabet

```
#include<stdio.h>
int main()
{
  char ch;

  printf("Enter  any alphabet value");
  scanf("%c",&ch);

  if(ch>='a'&&ch<='z')
       printf("%c is in lower case",ch);
  else
    printf("%c is in upper case",ch);
```

```
  return 0;

}.
```

25. Write a C program to input week number and print week day.

```
#include <stdio.h>
int main()
{
   int week;
  printf("Enter week number (1-7): ");
   scanf("%d", &week);
   if(week == 1)
   {
      printf("Monday");
   }
   else if(week == 2)
   {
      printf("Tuesday");
   }
   else if(week == 3)
   {
      printf("Wednesday");
   }
   else if(week == 4)
   {
      printf("Thursday");
   }
   else if(week == 5)
   {
      printf("Friday");
   }
   else if(week == 6)
   {
      printf("Saturday");
   }
   else if(week == 7)
   {
      printf("Sunday");
   }
   else
   {
      printf("Invalid Input! Please enter week number between 1-7.");
   }

   return 0;
}
```

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

Method 1

```
#include <stdio.h>

int main()
{
   int month;

   /* Input month number from user */
   printf("Enter month number (1-12): ");
   scanf("%d", &month);


   if(month == 1)
   {
      printf("31 days");
   }
   else if(month == 2)
   {
      printf("28 or 29 days");
   }
   else if(month == 3)
   {
      printf("31 days");
   }
   else if(month == 4)
   {
      printf("30 days");
   }
   else if(month == 5)
   {
      printf("31 days");
   }
   else if(month == 6)
   {
      printf("30 days");
   }
   else if(month == 7)
   {
      printf("31 days");
   }
   else if(month == 8)
   {
      printf("31 days");
   }
   else if(month == 9)
   {
```

```
        printf("30 days");
    }
    else if(month == 10)
    {
        printf("31 days");
    }
    else if(month == 11)
    {
        printf("30 days");
    }
    else if(month == 12)
    {
        printf("31 days");
    }
    else
    {
        printf("Invalid input! Please enter month number between (1-12).");
    }

    return 0;
}
```

Method 2 using logical operator

```
#include <stdio.h>
int main()
{
    int month;
    printf("Enter month number (1-12): ");
    scanf("%d", &month);
    /* Group all 31 days conditions together using logical OR operator */
    if(month==1 || month==3 || month==5 || month==7 || month==8 || month==10 || month==12)
    {
        printf("31 days");
    }
    else if(month==4 || month==6 || month==9 || month==11)
    {
        /* Group all 30 days months together */
        printf("30 days");
    }
    else if(month==2)
    {
        printf("28 or 29 days");
    }
    else
    {
        printf("Invalid input! Please enter month number between (1-12).");
```

```
    }

    return 0;
}
```

27. Write a C program to count total number of notes in given amount.

```
#include <stdio.h>
int main()
{
    int amount;
    int note500, note100, note50, note20, note10, note5, note2, note1;

    /* Initialize all notes to 0 */
    note500 = note100 = note50 = note20 = note10 = note5 = note2 = note1 = 0;


    /* Input amount from user */
    printf("Enter amount: ");
    scanf("%d", &amount);


    if(amount >= 500)
    {
        note500 = amount/500;
        amount -= note500 * 500;
    }
    if(amount >= 100)
    {
        note100 = amount/100;
        amount -= note100 * 100;
    }
    if(amount >= 50)
    {
        note50 = amount/50;
        amount -= note50 * 50;
    }
    if(amount >= 20)
    {
        note20 = amount/20;
        amount -= note20 * 20;
    }
    if(amount >= 10)
    {
        note10 = amount/10;
        amount -= note10 * 10;
    }
    if(amount >= 5)
```

```
    {
       note5 = amount/5;
       amount -= note5 * 5;
    }
    if(amount >= 2)
    {
       note2 = amount /2;
       amount -= note2 * 2;
    }
    if(amount >= 1)
    {
       note1 = amount;
    }

    /* Print required notes */
    printf("Total number of notes = \n");
    printf("500 = %d\n", note500);
    printf("100 = %d\n", note100);
    printf("50 = %d\n", note50);
    printf("20 = %d\n", note20);
    printf("10 = %d\n", note10);
    printf("5 = %d\n", note5);
    printf("2 = %d\n", note2);
    printf("1 = %d\n", note1);

    return 0;
}
```

28. Write a C program to input angles of a triangle and check whether triangle is valid or not.

```
#include <stdio.h>
int main()
{
    int angle1, angle2, angle3, sum;
    printf("Enter three angles of triangle: \n");
    scanf("%d%d%d", &angle1, &angle2, &angle3);

    /* Calculate sum of angles */
    sum = angle1 + angle2 + angle3;
    /*
     * If sum of angles is 180 and
     * angle1, angle2, angle3 is not 0 then
     * triangle is valid.
     */
    if(sum == 180 && angle1 > 0 && angle2 > 0 && angle3 > 0)
    {
       printf("Triangle is valid.");
    }
```

```
    else
    {
       printf("Triangle is not valid.");
    }

    return 0;
}
```

29. Write a C program to input all sides of a triangle and check whether triangle is valid or not.

```
#include <stdio.h>
Method 1
int main()
{
    int side1, side2, side3;

    /* Input three sides of a triangle */
    printf("Enter three sides of triangle: \n");
    scanf("%d%d%d", &side1, &side2, &side3);

    if((side1 + side2) > side3)
    {
       if((side2 + side3) > side1)
       {
          if((side1 + side3) > side2)
          {

             printf("Triangle is valid.");
          }
          else
          {
             printf("Triangle is not valid.");
          }
       }
       else
       {
          printf("Triangle is not valid.");
       }
    }
    else
    {
       printf("Triangle is not valid.");
    }

    return 0;
}
```

Method 2

```
#include <stdio.h>

int main()
{
   int side1, side2, side3;

   /* Input all three sides of a triangle */
   printf("Enter three sides of triangle: \n");
   scanf("%d%d%d", &side1, &side2, &side3);

   if((side1 + side2 > side3) && (side1 + side3 > side2) && (side2 + side3 > side1))
   {
      printf("Triangle is valid.");
   }
   else
   {
      printf("Triangle is not valid.");
   }

   return 0;
}
```

30. Write a C program to check whether the triangle is equilateral, isosceles or scalene triangle or right angled traingle.

```
#include <stdio.h>
int main()
{
   int side1, side2, side3;

   /* Input sides of a triangle */
   printf("Enter three sides of triangle: ");
   scanf("%d%d%d", &side1, &side2, &side3);

   if(side1==side2 && side2==side3)
   {
      /* If all sides are equal */
      printf("Equilateral triangle.");
   }
   else if(side1==side2 || side1==side3 || side2==side3)
   {
      /* If any two sides are equal */
      printf("Isosceles triangle.");
   }
   else
   {
      /* If none sides are equal */
```

```
        printf("Scalene triangle.");
    }

    return 0;
}
```

31. Write a C program to find all roots of a quadratic equation.

```
include <stdio.h>
#include <math.h> /* Used for sqrt() */

int main()
{
    float a, b, c;
    float root1, root2, imaginary;
    float discriminant;

    printf("Enter values of a, b, c of quadratic equation (aX^2 + bX + c): ");
    scanf("%f%f%f", &a, &b, &c);

    /* Find discriminant of the equation */
    discriminant = (b * b) - (4 * a * c);

    /* Find the nature of discriminant */
    if(discriminant > 0)
    {
        root1 = (-b + sqrt(discriminant)) / (2*a);
        root2 = (-b - sqrt(discriminant)) / (2*a);

        printf("Two distinct and real roots exists: %.2f and %.2f", root1, root2);
    }
    else if(discriminant == 0)
    {
        root1 = root2 = -b / (2 * a);

        printf("Two equal and real roots exists: %.2f and %.2f", root1, root2);
    }
    else if(discriminant < 0)
    {
        root1 = root2 = -b / (2 * a);
        imaginary = sqrt(-discriminant) / (2 * a);

        printf("Two distinct complex roots exists: %.2f + i%.2f and %.2f - i%.2f",
                root1, imaginary, root2, imaginary);
    }
    return 0;
}
```

32. Write a C program to calculate profit or loss.

```
#include <stdio.h>
int main()
{
   int cp,sp, amt;

   /* Input cost price and selling price of a product */
   printf("Enter cost price: ");
   scanf("%d", &cp);
   printf("Enter selling price: ");
   scanf("%d", &sp);

   if(sp > cp)
   {
      /* Calculate Profit */
      amt = sp - cp;
      printf("Profit = %d", amt);
   }
   else if(cp > sp)
   {
      /* Calculate Loss */
      amt = cp - sp;
      printf("Loss = %d", amt);
   }
   else
   {
      /* Neither profit nor loss */
      printf("No Profit No Loss.");
   }
   return 0;
}
```

33. The marks obtained by students in 5 different subjects are input through the keyboard. The student gets division as per the following rules :
Percentage above or equal to 60% : First Division
Percentage between 50 and 59 : Second Division
Percentage between 40 and 49 : Third Division
Percentage less than 40 : Fail
First method

```
#include<stdio.h>
int main()
{
   int m1,m2,m3,m4,m5,per;
   printf("Enter five subject marks");
   scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);
```

```
   per=(m1+m2+m3+m4+m5)/5;
   if(per>=60)
      printf("First division");
   else
      {

      if(per>=50)
         printf("Second division");
      else
      {
         if(per>=40)
            printf("third division");
         else
            printf("fail");
      }
       }
   return 0;
}
```

Second method

```
#include<stdio.h>
int main()
{
   int m1,m2,m3,m4,m5,per;
   printf("Enter five subject marks");
   scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);

   per=(m1+m2+m3+m4+m5)/5;
   if(per>=60)
         printf("First division");
   if(per>=50 && per<=59)
         printf("Second division");
   if(per>=40 && per<=49)
         printf("third division");
   if(per<40)
         printf("fail");


   return 0;
}
```

Third method

```
#include<stdio.h>
int main()
{
   int m1,m2,m3,m4,m5,per;
```

```
    printf("Enter five subject marks");
    scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);

    per=(m1+m2+m3+m4+m5)/5;
    if(per>=60)
          printf("First division");
    else if(per>=50)
          printf("Second division");
    else if(per>=40)
          printf("third division");
    else
          printf("fail");


    return 0;
}
```

34. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
Percentage >= 90% : Grade A
Percentage >= 80% : Grade B
Percentage >= 70% : Grade C
Percentage >= 60% : Grade D
Percentage >= 40% : Grade E
Percentage < 40% : Grade F
Method :-1

```
#include<stdio.h>
int main()
{
int phy,che,mat,bio,com,per;
printf("Enter the marks for five subjects");
scanf("%d%d%d%d%d",&phy,&che,&mat,&bio,&com);

per=(phy+che+mat+bio+com)/5;
printf("\npercents ==%d\n",per);
if(per>=90)
   printf("Grade A");
else
   {
    if(per>=80)
      printf("Grade B");
    else
      {
       if(per>=70)
         printf("Grade C");
       else
         {
```

```
            if(per>=60)
              printf("Grade D");
             else
              {
                if(per>=40)
                  printf("Grade E");
                else
                  printf("Grade F");
              }

          }
       }

   }


return 0;

}
```

Method:-2

```
#include<stdio.h>
int main()
{
int phy,che,mat,bio,com,per;
printf("Enter the marks for five subjects");
scanf("%d%d%d%d%d",&phy,&che,&mat,&bio,&com);

per=(phy+che+mat+bio+com)/5;
printf("\npercents ==%d\n",per);

if(per>=90)
   printf("Grade A");
else if(per>=80)
   printf("Grade B");
else if(per>=70)
   printf("Grade C");
else if(per>=60)
   printf("Grade D");
else if(per>=40)
   printf("Grade E");
else
   printf("Grade F");
return 0;
}
```

35. Any character is entered through the keyboard, write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol. The following table shows the range of ASCII values for various characters.

Characters	ASCII Values
A – Z	65 – 90
a – z	97 – 122
0 – 9	48 – 57
special symbols	0 - 47, 58 - 64, 91 - 96, 123 - 127

36. 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.

```
#include<stdio.h>

int main()
{
int days;
float fine;

printf("Enter the number of days by which member is late");

scanf("%d",&days);

if(days>=1 && days<=5)
   fine=days*50/100;

else if(days>=6 && days<=10)
   fine=days*1;

else if(days>10 && days<=30)
   fine=days*5;
else
   printf("\n Membership is cancelled");

return 0;

}
```

37. 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 sex 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.

38. A university has the following rules for a student to qualify for a degree with A as the main subject and B as the subsidiary subject:
(a) He should get 55 percent or more in A and 45 percent or more in B.
(b) If he gets less than 55 percent in A he should get 55 percent or more in B. However, he should get at least 45 percent in A.
(c) If he gets less than 45 percent in B and 65 percent or more in A he is allowed to reappear in an examination in B to qualify.
(d) In all other cases he is declared to have failed.

Write a program to receive marks in A and B and Output whether the student has passed, failed or is allowed to reappear in B.

```
#include<stdio.h>
int main()
{
   int A,B;
   printf("Enter marks of A and B");
   scanf("%d%d",&A,&B);

   if(A>=55&&B>=45)
      printf("\n The student has passed in exam");
   else if((A>=45&&A<55)&&(B>55))
      printf("\n The student has passed in exam");
   else if((B<45)&&(A>=65))
      printf("\n The student can reappear for subject B");
   else
      printf("Fail");

   return 0;
}
```

39. Write a program to calculate the salary as per the following table:

Gender	Years of Service	Qualifications	Salary
Male	>= 10	Post-Graduate	15000
	>= 10	Graduate	10000
	< 10	Post-Graduate	10000
	< 10	Graduate	7000
Female	>= 10	Post-Graduate	12000
	>= 10	Graduate	9000
	< 10	Post-Graduate	10000
	< 10	Graduate	6000

```
#include<stdio.h>
int main()
{
   int yos,sal;
   char gen,qual;
   printf("\n Enter your Gender(Either M/F),Years of Service\n & Qualification(G for Graduate
and P for Post-Graduate) --->");
   scanf("%c%d %c",&gen,&yos,&qual);
    if(gen=='M'&&yos>=10&&qual=='P')
    {
       sal=15000;
    }
    else if(gen=='M'&&yos>=10&&qual=='G')
   {
       sal=10000;
   }
    else if(gen=='M'&&yos<10&&qual=='P')
    {
       sal=10000;
    }
    else if(gen=='M'&&yos<10&&qual=='G')
   {
      sal=7000;
   }
   else if(gen=='F'&&yos>=10&&qual=='P')
   {
       sal=12000;
   }
    else if(gen=='F'&&yos>=10&&qual=='G')
   {
       sal=9000;
   }
    else if(gen=='F'&&yos<10&&qual=='P')
```

```
    {
       sal=10000;
    }
     else if(gen=='F'&&yos<10&&qual=='G')
    {
       sal=6000;
    }
    printf("\n\t Your salary = %d",sal);
    return 0;
}
```

45 . Write a C program to input basic salary of an employee and calculate its Gross salary according to following:
Basic Salary <= 10000 : HRA = 20%, DA = 80%
Basic Salary <= 20000 : HRA = 25%, DA = 90%
Basic Salary > 20000 : HRA = 30%, DA = 95%
Method :1

```
#include <stdio.h>
int main()
{
   float basic, gross, da, hra;
   printf("Enter basic salary of an employee: ");
   scanf("%f", &basic);

  if(basic <= 10000)
   {
      da  = basic * 0.8;
      hra = basic * 0.2;
   }
   else
   {
         if(basic <= 20000)
         {
            da  = basic * 0.9;
            hra = basic * 0.25;
         }
         else
         {
            da  = basic * 0.95;
            hra = basic * 0.3;
         }
   }

   gross = basic + hra + da;
   printf("GROSS SALARY  = %.2f", gross);
```

```
    return 0;
}
```

Method 2

```
#include <stdio.h>
int main()
{
    float basic, gross, da, hra;
    printf("Enter basic salary of an employee: ");
    scanf("%f", &basic);

    if(basic <= 10000)
    {
        da  = basic * 0.8;
        hra = basic * 0.2;
    }
    else if(basic <= 20000)
    {
        da  = basic * 0.9;
        hra = basic * 0.25;
    }
    else
    {
        da  = basic * 0.95;
        hra = basic * 0.3;
    }

    gross = basic + hra + da;

    printf("GROSS SALARY OF EMPLOYEE = %.2f", gross);

    return 0;
}
```

46 . 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

Method :1

```
#include <stdio.h>
int main()
{
    int unit;
    float amt, total_amt, sur_charge;
```

```
    /* Input unit consumed from user */
    printf("Enter total units consumed: ");
    scanf("%d", &unit);
    /* Calculate electricity bill according to given conditions */
    if(unit <= 50)
    {
        amt = unit * 0.50;
    }
    else
    {
        if(unit <= 150)
            amt = 25 + ((unit-50) * 0.75);
        else
            {
                if(unit <= 250)
                  amt = 100 + ((unit-150) * 1.20);
                else
                  amt = 220 + ((unit-250) * 1.50);
            }
    sur_charge = amt * 0.20;
    total_amt  = amt + sur_charge;
    printf("Electricity Bill = Rs. %.2f", total_amt);
    return 0;
}
```

Method 2

```
#include <stdio.h>
int main()
{
    int unit;
    float amt, total_amt, sur_charge;
    printf("Enter total units consumed: ");
    scanf("%d", &unit);

    if(unit <= 50)
    {
        amt = unit * 0.50;
    }
    else if(unit <= 150)
    {
        amt = 25 + ((unit-50) * 0.75);
    }
    else if(unit <= 250)
    {
        amt = 100 + ((unit-150) * 1.20);
    }
    else
```

```
    {
       amt = 220 + ((unit-250) * 1.50);
    }

    sur_charge = amt * 0.20;
    total_amt  = amt + sur_charge;

    printf("Electricity Bill = Rs. %.2f", total_amt);

    return 0;
}
```

47. 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.

Method 1

```
#include<stdio.h>
int main()
{
   int age;
   char ms,gender;
   printf("enter age,maritalstatus( m/u)and gender(m/f)--->");
   scanf("%d %c %c",&age,&ms,&gender);
   if(ms=='m')
      printf("Driver should be insured");
   else
      {
       if(gender=='m')
          {
             if(age>30)
                printf("driver should be insured");
             else
                printf("Driver should not be insured");
          }
         else
            {
              if(age>25)
                 printf("driver should be insured");
              else
                 printf("driver should not be insured");

            }
      }
   return 0;
}
```

Method 2

```
#include<stdio.h>
int main()
{
   int age;
   char ms,gender;
   printf("enter age,maritalstatus( m/u)and gender(m/f)--->");
   scanf("%d %c %c",&age,ms,gender);
   if(ms=='m')
      printf("Driver should be insured");
   else if(gender=='m' && age>30)
      printf("driver should be insured");
   else if( gender=='f' && age>25)
      printf("driver should be insured");
   else
      printf("Driver should not be insured");

   return 0;
}
```