1. **Write a program to calculate and print compound interest amount (f) when p,n,r are given (Formula=p(1+r) n ,r should be given in decimal like (r=0.15).**

```
#include<stdio.h>
#include<math.h>
#include<conio.h>
int main(){
float p,n,r=0.15,ci;
printf("Enter principle ,year to compute compound interest...\n");
scanf("%f%f",&p,&n);
ci=p*pow((1+r),n);
printf("Compound interest ci=%.2f",ci);
getch();
return 0;
}
```

2. Write a program to calculate the real roots of quadratic equation ax2+bx+c=0 using quadratic equation.

```
#include<stdio.h>
#include<math.h>
#include<conio.h>
int main(){
float a,b,c;
float x1,x2;
printf("Enter the values of a,b,c...\n");
scanf("%f%f%f",&a,&b,&c);
if((b*b-4*a*c)>=0){
x1=-b+sqrt(b*b-4*a*c)/(2*a);
x2=-b-sqrt(b*b-4*a*c)/(2*a);
printf("Real root are %f %f",x1,x2);
```

```
}
else
{
printf("Roots are imaginary...\n");
}
getch();
return 0;
}
```

3. Write a program to find whether the given 4-digit number (year) is a leap year or not

Leap year.

```
#include<stdio.h>
#include<math.h>
#include<conio.h>
int main(){
int year;
printf("Enter the year to find the year is a leap year or not...\n");
scanf("%d",&year);
if((year%4==0)&&(year%100!=0)||(year%4==0)&&(year%400==0)){
or,
if((year%4==0)&&(year%100!=0)||(year%100==0)&&(year%400==0)){
printf("The given year is a leap year\n");
}
else{
printf("Given year is not a leap year..\n");
}
getch();
return 0;
}
```

4. Write a program to read length and breadth of a room and print area and print

"Auditorium" if area >2500

"Hall" if 500<=area<=2500

"Big Room" if 150<area<500

"Small Room" if area<150

```
#include<stdio.h>
#include<conio.h>
int main(){
int length,breadth,area;
printf("Enter the length and breadth of a room....\n");
scanf("%d%d",&length,&breadth);
area=length*breadth;
if(area>2500)
printf("Auditorium");
else if(area<=2500&&area>500)
printf("Hall");
else if(area<500 &&area>150)
printf("Big Room");
else
printf("Small Room");
getch();
return 0;
}
```

Or,

```
#include<stdio.h>
#include<conio.h>
int main(){
int length,breadth,area;
```

```
printf("Enter the length and breadth of a room....\n");
scanf("%d%d",&length,&breadth);
area=length*breadth;
if(area>2500)
printf("Auditorium");
if(area<=2500&&area>500)
printf("Hall");
if(area<500 &&area>150)
printf("Big Room");
if(area<=150)
printf("Small Room");
getch();
return 0;
}
```

5. Write a program to read three sides of a triangle and print area for valid data and to print "Invalid Data" if either one side of triangle is greater than or equals to sum of other two sides.

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
int main(){
int a,b,c,s;
float area;
clrscr();
printf("Enter the three sides of triangle ....\n");
scanf("%d%d%d",&a,&b,&c);
s=a+b+c;
if(a>=(b+c)||(b>(a+c))||(c>=(a+b))){
printf("Invalid Triangle...\n");
```

```
}
else{
s=(a+b+c)/2;
area=sqrt(s*(s-a)*(s-b)*(s-c));
printf("area=%f",area);
}
getch();
return 0;
}
```

6. Write a program to read four integer numbers and print the maximum.

```
#include<stdio.h>
#include<conio.h>
int main(){
int a,b,c,d;
clrscr();
printf(“Enter the value of a,b,c,d….\n”);
scanf(“%d%d%d%d”,&a,&b,&c,&d);
if(a>b&&a>c&&a>d)
printf("%d is is maximum",a);
else if(b>c&&b>d)
printf("%d is is maximum",b);
else if(c>d)
printf("%d is is maximum",c);
else
printf("%d is maximum",d);
getch();
return 0;
}
```

Without Using Operators

```
#include<stdio.h>
#include<conio.h>
int main(){
int a=99,b=147,c=333,d=890;
clrscr();
if(a>b)
if(a>c)
if(a>d)
printf("A is greatest...\n");
if(b>a)
if(b>c)
if(b>d)
printf("B is greatest....\n");
if(c>a)
if(c>b)
if(c>d)
printf("C is greatest.....\n");
else
printf("D is greatest....\n");
getch();
return 0;
}
```

7. Write a program to read three numbers and display the following menu.

1. Summation

2. Square of Square

3. Sum of Cubes

4. Product

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
#include<stdlib.h>
int main(){
int n1,n2,n3,choice,summation,sos,soc,product;
clrscr();
printf("Enter the value of n1,n2,n3.....\n");
scanf("%d%d%d",&n1,&n2,&n3);
printf("Enter the choice....\n");
scanf("%d",&choice);
switch(choice){
case 1:summation=n1+n2+n3;
printf("Summation =%d",summation);
break;
case 2:sos=n1*n1+n2*n2+n3*n3;
printf("Sum of square=%d",sos);
break;
case 3:soc=n1*n1*n1+n2*n2*n2+n3*n3*n3;
printf("Sum of cube=%d",soc);
break;
case 4:product=n1*n2*n3;
printf("Product=%d",product);
break;
case 5:exit(0);
default:printf("Invalid choice...\n");
}
getch();
```

```
return 0;
}
```

8. Write a program to read character and to test whether it is an alphabet or number or especial character.

```
#include<stdio.h>
#include<conio.h>
int main(){
char ch;
printf("Enter the character to test...\n");
scanf("%c",&ch);
if((ch>='a'&&ch<='z')||(ch>='A' && ch<='Z'))
printf("%c is an alphabet",ch);
else if(ch>='0'&&ch<='9')
printf("%c is a number",ch);
else
printf("%c is a special character",ch);
getch();
return 0;
}
```

9. Write a program to program to read average temperature of a day in Fahrenheit to print.

```
#include<stdio.h>
#include<conio.h>
int main(){
float far;
printf("Enter the average temperature in Farenheit\n");
scanf("%f",&far);
if(far>60 && far<80)
```

```
printf("Nice Day");
else if(far<=60)
printf("Cold day");
else
printf("Hot Day");
getch();
return 0;
}
```

10. Write a program to read 3 digit number and test whether it is Armstrong number or not Armstrong number

```
#include<stdio.h>
#include<conio.h>
int main(){
int n,r1,r2,r3,sum,num;
printf("Enter the number to check for armstrong...\n");
scanf("%d",&num);
n=num;
r1=n%10;
n=n/10;
r2=n%10;
n=n/10;
r3=n%10;
n=n/10;
sum=r1*r1*r1+r2*r2*r2+r3*r3*r3;
printf("sum=%d\n", sum);
if(sum==num)
printf("%d is a Armstrong Number\n",num);
else
```

```
printf("%d is not an armstrong number\n",num);
getch();
return 0;
}
```

11. An organization is dealing in two items say A and B and provides the commission on sale of these items according to following policies:

(i) Commission rate for item A is 5% up to sale of Rs 2,000.If the sale of item A above 2000 then the commission is 6% on the extra sale

(ii)For B, 10% up to sale of Rs 4,000 if the sale of Rs 4,000 if the sale is above 4,000 commission rate is 12%on extra sale. Given the sales of both the items, write a program to compute net commission.

```
#include<stdio.h>
#include<conio.h>
int main(){
int sa,sb,ca,cb,nc,mn;
printf("Enter the sale amount of a..\n");
scanf("%d",&sa);
printf("Enter the sale amount of b...\n");
scanf("%d",&sb);
if(sa<=2000){
ca=(5*sa)/100;
printf("ca=%d\n",ca);}
else{
ca=(5*sa)/100+(6*(sa-2000))/100;
printf("ca=%d\n",ca);
}
if(sb<=4000){
cb=(10*sb)/100;
```

```
printf("cb=%d\n",cb);}
else {
cb=(10*sb)/100+(12*(sb-4000))/100;
printf("cb=%d\n",cb);}
nc=ca+cb;
printf("nc=%d",nc);
getch();
return 0;
}
```

12. A bank accepts deposit for 1 year or more and the policies it adopts on interest rate as follows:

(i)If deposit is less than Rs 1,000 and for 2 or more years than interest rate is 5% compounded annually.

(ii)If the deposit is Rs 1, 000 or more but less than Rs.5000 and for 2 or more year the interest rate 7% compounding annually

(iii)If deposit is more than 5,000 and is for one year or more the interest rate is 8% compound annually.

(iv)On all deposit for 5 years or more, interest rate is 10% compounded annually.

(v) On all other deposit not covered by the above conditions the interest is 3% compounded annually.

At the time of withdrawal, costumer's data is given with amount deposited and the number of years the money has been with the bank. Write a program to obtain the total money in the costumer's account and the interest credited at the time of withdrawal.

```
}
#include<stdio.h>
#include<conio.h>
#include<math.h>
int main(){
```

```
float r,p,i,tot,t;
printf("Enter amount and deposited time\n");
scanf("%f%f",&p,&t);
if(p<1000&&t>=2&&t<5)
r=0.05;
else if(p>=100&&p<5000&&t>=2&&t<5)
r=0.07;
else if(p>=5000&&t>=1&&t<5)
r=0.08;
else if(t>=5)
r=0.10;
else
r=0.03;
i=p*pow((1+r),t);
printf("CI=%f",i);
tot=p+i;
printf("Total=%f",tot);
getch();
return 0;
}
```