1) areaAndCircumpherence

```
int main()
{
	int r;
	printf("enter the radius=");
	scanf("%d",&r);
	float circum,area;
	areaAndCircum(r,&area,&circum);
	printf("area=%.2f\t circumpeherence=%.2f",area,circum;
}
void areaAndCircum(int r,float*area,float*circum)
{
	//area and circumpherence
	const float pi=3.14;
	*area=pi*r*r;
	*circum=2*pi*r;
}
```

2. Armstrong

```
void armstrong(int no,int*a)
{
	//Armstrong number is number who's sum of cubes of its digits is eqaul to number itself

	int num1=no;
	int rem;
	*a=0;

	while(num1>0)
	{

	rem=num1%10;
	num1=num1/10;
```

```
            *a=*a+rem*rem*rem;


    }


}
void main()
{
            int numb;
            printf("enter the number to be check=");
            scanf("%d",&numb);
            int res;
            armstrong(numb,&res);
            if(res==numb)
    printf("%d is a Armstrong number.\n",numb);


    else
    printf("%d is not a Armstrong number.\n",numb);
}
```

3.discount

```
void main()
{
            int cost;
            printf("enter the cost=");
            scanf("%d",&cost);
            int disc;
            printf("enter the discount(5%,10%,15%,20%)=");
            scanf("%d",&disc);
            int price=0;
            discount(cost,disc,&price);
            printf("price=%d\n",price);
```

```
}
/*
Find the price of item when discount is given (specify different discount based on
price)
*/
void discount(int cost,int disc,int*price)
{

        if(cost>0)
        {
                if(disc==5)
                        *price=cost-cost*0.05;

                else if(disc==10)
                   *price=cost-cost*0.10;

                else if(disc==15)
                        *price=cost-cost*0.15;

                else if(disc==20)
                        *price=cost-cost*0.20;

                else
                printf("please enter valid discount\n");
                }
}
```

4. discountToStudent

```
/*Accept the price from user. Ask the user if he is a student (user may say yes or
no). If he is a student and he has purchased more than 500 than discount is 20%
otherwise discount is 10%.But if he is not a student then if he has purchased
more than 600 discount is 15% otherwise there is not discount*/
```

```
void discountToStudent(char c,int price,int*ptr)
{

        if(c=='s')
        {
                if(price>=500)
                        *ptr=20;
                else
                  *ptr=10;
        }
        else if(price>=600)
        *ptr=15;
        else
        printf("no discount\n");
}
void main()
{

        int price;
        char c1;
        printf("enter if person is student or not(s/n)");
        scanf("%c",&c1);
        printf("enter price=");
        scanf("%d",&price);
        int disc;
        discountToStudent(c1,price,&disc);
        printf("%d percent discount\n",disc);
}
```

5. facto

```
#include<stdio.h>
void facto(int numb,int*fact)
```

```
{
        *fact=1;

        int i=numb;
        while(i>0)
        {
                *fact*=i;
                i--;
        }

}
void main()
{
        int x;
        printf("enter the number=");
        scanf("%d",&x);
        int fact;
        facto(x,&fact);
        printf("factorial of %d is =%d\n",x,fact);

}
```

6. fibbo

```
void fibonicci(int*a,int*b,int*sum)
{

        *sum=*a+*b;
                *a=*b;
                *b=*sum;
}
void main()
{
```

```
        int end;
        printf("enter the number upto which u want to printf fibonicci series=");
        scanf("%d",&end);

        int sum;

        int a=0,b=1;
        printf("%d\n%d\n",a,b);
   for(int i=1;i<end-1;i++)
        {
           fibonicci(&a,&b,&sum);
           printf("%d\n",sum);
   }
}
```

7. marriage

```
#include<stdio.h>
void marriage(char gender,int age,int*i)
{
        if(gender=='m'&&age>=21 || gender=='f'&&age>=18)
        *i=1;
        else
        *i=0;
}
void main()
{
        fflush(stdin);
        char gender;
        printf("enter the gender(m/f)=");
        scanf("%c",&gender);
        int age;
        printf("enter the age=");
```

```
	scanf("%d",&age);
	int i;
	marriage(gender,age,&i);
	if(i==1)
	printf("elligible");
	else
	printf("not elligible");

}
```

8. maxOfAll

```
/*
Write a program to find greatest of three numbers using nested if-else.
*/
void greatest(int a,int b,int c,int*max)
{

	if(a>b)
	{
		if(a>c)
	   *max=a;
		else
	   *max=c;
	}
	else
	if(b>c)
   *max=b;
	else
	*max=c;
}
void main()
{
```

```
	int a,b,c;
	printf("enter three numbers=");
	scanf("%d %d %d",&a,&b,&c);
	int max;
	greatest(a,b,c,&max);
	printf("max=%d",max);
}
```

9. menudriven

```
/*Display a menu to the user (like 1.Even Odd 2. Basic salary etc), ask the user to
enter his choice,then based on that perform the desired operations.*/
void menudriven(int choice,int*ptr)
{
	if(choice==1)
	{
	   int a;
	printf("enter the number=");
	scanf("%d",&a);

	if(a%2==0)
	*ptr=1;

	else
	*ptr=0;

	}
	else if(choice==2)
	{
		int basic;
	printf("enter the basic=");
	scanf("%d",&basic);
```

```
        float da,ta,hra,totalA;

        if(basic<=5000)
        {
                da=0.1;
                ta=0.2;
                hra=0.25;
                totalA=basic*(da+ta+hra);
                *ptr=totalA+basic;
        }
        else
        {
                da=0.15;
                ta=0.25;
                hra=0.3;
                totalA=basic*(da+ta+hra);
                *ptr=totalA+basic;
        }
        }

}
void main()
{
        printf("enter your choice\n 1.Even Odd \n 2.Basic salary\n");
        int choice;
        scanf("%d",&choice);
        int totalSallary;
        int res;
        if(choice==1)
        {
   menudriven(choice,&res);
```

```
   if(res==1)
   printf("even\n");
   else
   printf("odd\n");
   }
   else if(choice==2)
   {
   menudriven(choice,&totalSallary);
   printf("total sallary=%d\n",totalSallary);
   }
}
```

10. numbers

```
void numbers(int i,int*res)
{
                        *res=i;
                        i++;
}
void main()
{
            int i,j;
            printf("enter the starting and ending=");
            scanf("%d%d",&i,&j);
            int res;
            int k=i;
            while(k<=j)
            {
            numbers(k,&res);
            printf("%d\n",res);
            k++;
   }
}
```

11. operators

```
/*Accept two numbers from user and an operator (+,-,/,*,%) based on that
perform the desiredoperations
*/
void operation(char op,int a,int b,int*res)
{
        if(op=='+'||op=='-'||op=='*'||op=='%'||op=='/')
        {
                if(op=='+')
                *res=a+b;

                if(op=='-')
                *res=a+b;

                if(op=='/')
           *res=a+b;

                if(op=='*')
           *res=a+b;

                if(op=='%')
                *res=a+b;

        }
        else
        printf("invalid operator\n");
}
void main()
{

        printf("enter the operator=");
```

```
	char op;
	scanf("%c",&op);
	printf("enter two numbers=");
	int a1,b1;
	scanf("%d %d",&a1,&b1);
	int res;
	operation(op,a1,b1,&res);
	printf("result=%d",res);
}
```

12. palindrome

```
void palindrome(int t,int*pal)
{
	int i=t,rem;
	*pal=0;
	while(i>0)
	{
		rem=i%10;
		i=i/10;
		*pal=*pal*10+rem;
	}
}
void main()
{
	int t;
	printf("enter the number=");
	scanf("%d",&t);
	int pal;
	palindrome(t,&pal);
	if(pal==t)
	printf("%d is a Palindrome number.\n",t);
	else
```

```
        printf("%d is not a Palindrome number.\n",t);
}
```

13. perfect

```
#include<stdio.h>
void perfect(int number,int*perfect)
{
        //perfect number is a positive integer that is equal to sum of its proper devisors excluding
itself



   *perfect=0;
        int i=1;
        while(i<number)
        {
                if(number%i==0)
                *perfect+=i;
                i++;
        }


}
void main()
{
        int number;
        printf("enter the number=");
        scanf("%d",&number);
        int no;
        perfect(number,&no);
        if(number==no)
        printf("%d is a perfect number\n",number);


        else
```

```
        printf("%d is not a perfect number\n",number);


}
```

14. perfectNumberBtn

```
void perfectNumbersBtn(int no,int *res)
{       int i=no;
                        int sum=0;
                        for(int j=1;j<no;j++)
                        {
                                if(no%j==0)
                                sum=sum+j;
                        }
                        if(sum==i)
                        *res=1;


}
void main()
{
        int start,end;
        printf("enter start and end to check perfect numbers btn=");
        scanf("%d%d",&start,&end);


        int res;
        for(int i=start;i<=end;i++)
        {
                perfectNumbersBtn(i,&res);
                if(res==1)
                printf("%d\n",i);
                res=0;


        }}
```

15.prime

```
#include<stdio.h>
void primeNumbersBtn(int i,int*flag)
{

   *flag;
   int count=0;
          for(int j=1; j<=i; j++)
          {
                    if(i%j==0)
                    {
                              count++;
                              *flag=count;
              }


          }

}
void main()
{
          int start,end;
          printf("enter start and end to check prime numbers btn=");
          scanf("%d%d",&start,&end);
          int flag;
          int i=start;
          while(i<=end) {
                    primeNumbersBtn(i,&flag);

                    if(flag==2) {
                              printf("%d\n",i);
                    }
```

```
                i++;
        }
}
```

16.strong

```
#include<stdio.h>
void strong(int x,int*sum)
{
        //145
         *sum=0;
        while(x>0)
        {
                //1.take the remainder
                int rem;
                rem=x%10;
                //2.take the factorial of rem;
           int fact;
           factorial(rem,&fact);
           //3.sum of factors
           *sum=*sum+fact;
           x=x/10;
   }
}
void main()
{
        printf("enter the number=");
        int num;
        scanf("%d",&num);
        int count;
        strong(num,&count);
        if(count==num)
        printf("strong number\n");
```

```
        else
        printf("not strong number\n");

}
void factorial(int rem,int*fact)
{
                *fact=1;
                while(rem>0)
                {
                *fact=*fact*rem;
                rem--;
          }
}
```

17. strongNumbersbtn

```
void strongNumbersBtn(int no,int*res)
{
        for(int i=no;i<=end;i++)
        {
                int flag=0;
                for(int j=2;j<=i/2;j++)
                {
                        if(i%j==0)
                        {
                                flag=1;
                                break;
                        }
                }
                if(flag==0)
                printf("%d\n",i);
        }
```

```
}
void main()
{
	printf("enter start and end to check strong numbers btn =");
	scanf("%d%d",&start,&end);
	strongNumbersBtn(start,end);
}
```

18. sumOf_first_and_last_Digit

```
#include<stdio.h>
void sumOfFirstAndLastDigit(int y,int *sum)
{
	int rem,first,last;
	int i=y;
	while(i>0)
	{
		rem=i%10;
		if(i==y)
		last=rem;
		i=i/10;
	}

	first=rem;
	*sum=first+last;

}
void main()
{
	int y;
	printf("enter the number=");
	scanf("%d",&y);
```

```
	int sum;
	sumOfFirstAndLastDigit(y,&sum);
	printf("sum of first and last digit of %d is=%d\n",y,sum);
}
```

18. sumOfNumbersBtn

```
void sumOfNumbersBtn(int a,int b,int*res)
{

	*res=0;
	int i=a;
	while(i<=b)
	{
		*res+=i;
		i++;
	}

}
void main()
{
	int a,b;
	printf("enter a and b=");
	scanf("%d %d",&a,&b);
	int res;
	sumOfNumbersBtn(a,b,&res);
	printf("sum of numbers btn %d to %d is =%d\n",a,b,res);
}
```

19.table

```
void table(int i,int no,int*res)
{
  *res=i*no;
}
```

```
void main()
{
	int no;
	printf("enter the number=");
	scanf("%d",&no);
	int res;
	int i=1;
	while(i<=10)
	{
		table(i,no,&res);
		printf("%d*%d=%d\n",no,i,res);
		i++;
	}

}
```

20. tempConversion_withPointer

```
void main()
{
	float c;
	printf("enter the temp in degree c=");
	scanf("%d",&c);
	temp(&c);
	printf("temp in F=%f",c);
}
void temp(float* c)
{
	*c=*c*9/5+32;
}
```

21. threeDigitNumberSum

```
void main()
{
```

```
        int b;
        printf("enter the number=");
        scanf("%d",&b);
        int sum=0,rev=0;
   threeDigitNumber(b,&sum,&rev);
   printf("sum of digits of %d is=%d and its rev is %d",b,sum,rev);
}
void threeDigitNumber(int b,int*sum,int*rev)
{

        int a=b;

        int temp;
        if(a>=100 && a<=999)
        {
            while(a>0)
            {
              temp=a%10;
              *sum=*sum+temp;
              *rev=*rev*10+temp;
              a=a/10;
            }

        }
        else
        printf("please enter three digit number");
}
```