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Percentage >=90 % : Grade A

Percentage >=80 % : Grade B

Percentage >=70 % : Grade C

Percentage >=60 % : Grade D

Percentage >=40 % : Grade E

Percentage < 40 % : Grade F .

* Program to input basic salary of employee and calculate its gross salary according to following:

Basic salary<=10,000 : HRA=20%,DA=80%

Basic salary <=20,000 : HRA =25% , DA = 90%

Basic salary>20,000: HRA =30% , DA= 95%

* Program to input electricity unit charges and calculate total electricity bill according to following:

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 to the bill.

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**ARRAY PROGRAMS**

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**ARRAY PROGRAMMING**

* **Write C code that will display the calculator menu.**

The program will prompt the user to choose the operation choice (from 1 to 5). Then it asks the user to input two integer vales for the calculation. See the sample below.  
  MENU  
          1. Add  
          2. Subtract  
          3. Multiply  
          4. Divide  
          5. Modulus  
Enter your choice: 1  
Enter your two numbers: 12 15  
Result: 27  
   
Continue? y  
   
The program also asks the user to decide whether he/she wants to continue the operation. If he/she input ‘y’, the program will prompt the user to choose the operation gain. Instead, the program will terminate.

* **Write a C program that use the selection sort algorithm to sort an integer array in ascending order.**
* **Write a program that will ask the user to input three integer values from the keyboard. Then it will print the smallest and largest of those numbers.**
* **Display all prime numbers between two Interval.**
* **Check prime and Armstrong number by making functions**
* **Calculate the power of a number using function**
* **Write a program in C to find the square of any number using the function. Go to the editor**.  
  Test Data :  
  Input any number for square : 20  
  Expected Output :

The square of 20 is : 400.00

* **Write a program in C to swap two numbers using function.**  
  Input 1st number : 2  
  Input 2nd number : 4  
  Expected Output :

Before swapping: n1 = 2, n2 = 4

After swapping: n1 = 4, n2 = 2

* **Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function.**    
  Expected Output :

The sum of the series is : 34

* **Write a program in C to get the largest element of an array using the function.**   
  Test Data :  
  Input the number of elements to be stored in the array :5  
  Input 5 elements in the array :  
  element - 0 : 1  
  element - 1 : 2  
  element - 2 : 3  
  element - 3 : 4  
  element - 4 : 5  
  Expected Output :

The largest element in the array is : 5

* **Write a C programming to find out maximum and minimum of some values using function which will return an array**.    
  Test Data :  
  Input 5 values  
  25  
  11  
  35  
  65  
  20  
  Expected Output :

Number of values you want to input: Input 5 values

Minimum value is: 11

Maximum value is: 65

* **Write a program in C to print all perfect numbers in given range using the function.**   
  Test Data :  
  Input lowest search limit of perfect numbers : 1  
  Input lowest search limit of perfect numbers : 100  
  Expected Output :

The perfect numbers between 1 to 100 are :

6 28

* **Write a program in C to check whether a number is a prime number or not using the function**.    
  Test Data :  
  Input a positive number : 5  
  Expected Output :

The number 5 is a prime number.

**Program to find maximum between two numbers.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b;

clrscr();

printf("enter the first number");

scanf("%d",&a);

printf("enter the second number");

scanf("%d",&b);

if(a>b)

{

printf("a is greater: %d",a);

}

else

{

printf("b is greater:%d",b);

}

getch();

}

**Program to find maximum between three numbers.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,c;

clrscr();

printf("enter the first value:");

scanf("%d",&a);

printf("enter the second value:");

scanf("%d",&b);

printf("enter the third value");

scanf("%d",&c);

if(a==b&&b==c)

{

printf("all are equal : %d=%d=%d",a,b,c);

}

else if(a==b)

{

if(a>c)

{

printf("a and b are equal and highest:%d",a);

}

else

{

printf("c is greater:%d",c);

}

}

else if(a==c)

{

if(a>b)

{

printf("a and c are equal and highest: %d",a);

}

else

{

printf("b is greater : %d",b);

}

}

else if(b==c)

{

if(b>a)

{

printf("b and c are equal and highest: %d",b);

}

else

{

printf("a is greater :%d",a);

}

}

else if(a>b&&a>c)

{

printf("a is greater : %d",a);

}

else if(b>a&&b>c)

{

printf("b is greater : %d",b);

}

else if(c>a&&c>b)

{

printf("c is greater: %d ",c);

}

getch();

}

**Program to check number is negative , positive or zero.**

#include<stdio.h>

#include<conio.h>

void main()

{

int num;

clrscr();

printf("enter any number");

scanf("%d",&num);

if(num>0)

printf("positive");

else if(num<0)

printf("negative");

else

printf("zero");

getch();

}

**Program to check whether number is divisible by 5 and 11.**

#include<stdio.h>

#include<conio.h>

void main()

{

int num;

clrscr();

printf("enter number");

scanf("%d",&num);

if(num%5==0&&num%11==0)

printf("number is devided by both 5 and 11");

else if(num%5==0)

printf("number is devided by 5 only");

else if(num%11==0)

printf("number is devided by 11 only");

else

printf("number is not devided by 5 and 11 ");

getch();

}

**Program to check whether number is even or odd.**

#include<stdio.h>

#include<conio.h>

void main()

{

int num;

clrscr();

printf("enter number: ");

scanf("%d",&num);

if(num%2==0)

printf("even");

else

printf("odd");

getch();

}

**Program to check whether year is leap year or not.**

#include<stdio.h>

#include<conio.h>

void main()

{

int year;

clrscr();

printf("enter year");

scanf("%d",&year);

if(year%4==0&&year%100==0&&year%400==0)

printf("leap year");

else

printf("not a leap year");

getch();

}

**Program to check whether character is alphabet or not.**

#include<stdio.h>

#include<conio.h>

void main()

{

char ch;

clrscr();

printf("enter character: ");

scanf("%c",&ch);

if(ch>=65&&ch<=90||ch>=97&&ch<=122)

printf("alphabet");

else

printf("not alphabet");

getch();

}

**Program to input any alphabet and check it is vowel or consonant.**

#include<stdio.h>

#include<conio.h>

void main()

{

char ch;

clrscr();

printf("enter alphabet: ");

scanf("%c",&ch);

if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u')

printf("vowel");

else if(ch=='A'||ch=='E'||ch=='I'||ch=='O'||ch=='U')

printf("vowel");

else

printf("consonant");

getch();

}

**Program to input any character and check whether it is alphabet , digit , or special character.**

#include<stdio.h>

#include<conio.h>

void main()

{

char ch;

clrscr();

printf("enter character : ");

scanf("%c",&ch);

if(ch>=65&&ch<=90||ch>=97&&ch<=122)

printf("alphabet");

else if(ch>=48&&ch<=57)

printf("digit");

else

printf("special character");

getch();

}

**Program to check whether character is uppercase or lowercase.**

#include<stdio.h>

#include<conio.h>

main()

{

char ch;

printf("enter any alphabet : ");

scanf("%c",&ch);

if(ch>=65&&ch<=90)

printf("uppercase");

else if(ch>=97&&ch<=122)

printf("lowercase");

else

printf("not an alphabet");

getch();

}

**Program to input week number and print week day.**

#include<stdio.h>

#include<conio.h>

void main()

{

int d;

printf("enter number of day from 1-7");

scanf("%d",&d);

if(d==1)

printf("monday %d");

else if (d==2)

printf("tuesday %d");

else if(d==3)

printf("wednesday %d");

else if(d==4)

printf("thrusday %d");

else if(d==5)

printf("friday %d");

else if(d==6)

printf("saturday %d");

else if(d==7)

printf("sunday %d");

else

printf("invalid input");

getch();

}

**Program to input month number and print number of days in that month.**

#include<stdio.h>

#include<conio.h>

void main()

{

int num;

clrscr();

printf("enter month number");

scanf("%d",&num);

if(num==1||num==3||num==5||num==7||num==8||num==10||num==12)

{

printf("number of days are 31");

}

else if(num==4||num==6||num==9||num==11)

{

printf("number of days are 30");

}

else if(num==2)

{

printf("number of days are 28");

}

else

{

printf("invalid input");

}

getch();

}

**Program to count number of notes in given amount.**

#include<stdio.h>

#include<conio.h>

void main()

{

int amount,note2000=0,note500=0,note100=0,note50=0,note20=0,note10=0,note5=0,note2=0,note1=0;

clrscr();

printf("enter the amount:");

scanf("%d",&amount);

note2000=amount/2000;

amount=amount%2000;

if(amount!=0)

{

note500=amount/500;

amount=amount%500;

if(amount!=0)

{

note100=amount/100;

amount=amount%100;

if(amount!=0)

{

note50=amount/50;

amount=amount%50;

if(amount!=0)

{

note20=amount/20;

amount=amount%20;

if(amount!=0)

{

note10=amount/10;

amount=amount%10;

if(amount!=0)

{

note5=amount/5;

amount=amount%5;

if(amount!=0)

{

note2=amount/2;

amount=amount%2;

if(amount!=0)

{

note1=amount/1;

amount=amount%1;

}

}

} }

}

}}}

else

{

printf("the amount is zero");

}

printf("the no. of 2000 note:%d\n",note2000);

printf("the no. of 500 note:%d\n",note500);

printf("the no. of 100 note:%d\n",note100);

printf("the no. of 50 note:%d\n",note50);

printf("the no. of 20 note:%d\n",note20);

printf("the no. of 10 note:%d\n",note10);

printf("the no. of 5 note:%d\n",note5);

printf("the no. of 2 note:%d\n",note2);

printf("the no. of 1 note:%d\n",note1);

getch();

}

**Program to input angles of trianlgle and check whether triangle is valid or not.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,c,sum;

clrscr();

printf("enter 1st angle");

scanf("%d",&a);

printf("enter 2nd angle");

scanf("%d",&b);

printf("enter 3rd angle");

scanf("%d",&c);

sum=a+b+c;

if(sum==180)

{

printf("valid triangle");

}

else

{

printf("invalid triangle");

}

getch();

}

**Program to input all sides of triangle and check whether triangle is valid or not .**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,c;

printf("enter 1st side");

scanf("%d",&a);

printf("enter 2nd side");

scanf("%d",&b);

printf("enter 3rd side");

scanf("%d",&c);

if(a+b>c)

{

printf("valid triangle");

}

else if (b+c>a)

{

printf("valid triangle");

}

else if(c+a>b)

{

printf("valid triangle");

}

else

{

printf("invalid triangle");

}

getch();

}

**Program to check whether triangle is equilateral , isosceles or scalene triangle.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,c;

clrscr();

printf("enter 1st side");

scanf("%d",&a);

printf("enter 2nd side");

scanf("%d",&b);

printf("enter 3rd side");

scanf("%d",&c);

if(a==b&&b==c)

{

printf("equilateral triangle");

}

else if(a==b!=c||a!=b==c||a==c!=b)

{

printf("isosceles triangle");

}

else

{

printf("scalene triangle");

}

getch();

}

**Program to find square root of a quadratic equation.**

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

int a,b,c,d;

float x,y;

clrscr();

printf("enter the constant with x sqr : ");

scanf("%d",&a);

printf("enter the constant with x: ");

scanf("%d",&b);

printf("enter the condstant with x: ");

scanf("%d",&c);

d=(b\*b)-(4\*a\*c);

x=(-b+sqrt(d))/(2\*a);

y=(-b-sqrt(d))/(2\*a) ;

printf("roots of equation are : %0.3f & %0.3f",x,y);

getch();

}

**Program to calculate profit or loss.**

#include<stdio.h>

#include<conio.h>

void main()

{

int sp,cp,profit,loss;

clrscr();

printf("enter cost price cp:");

scanf("%d",&cp);

printf("enter selling price sp:");

scanf("%d",&sp);

if(cp>sp)

{

loss=cp-sp;

printf("loss=%d",loss);

}

else if(cp<sp)

{

printf("no profit no loss");

}

getch();

}

* **Program to input marks of five subjects Physics , chemistry , 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 .**

#include<stdio.h>

#include<conio.h>

void main()

{

int p,ch,b,m,c,total;

float per;

clrscr();

printf("enter marks of physics");

scanf("%d",&p);

printf("enter marks of chemistry");

scanf("%d",&ch);

printf(" enter marks of biology");

scanf("%d",&b);

printf("enter marks of mathematics");

scanf("%d",&m);

printf("enter marks of computer");

scanf("%d",&c);

total=(p+ch+b+m+c);

per=total/5;

printf("tottal= %d , percent= %f",total,per);

if(per<40)

{

printf("grade f");

}

else if(per>=40 && per<60)

{

printf("grade e");

}

else if(per>=60 && per<70)

{

printf("grade d");

}

else if(per>=70 && per<80)

{

printf("grade c");

}

else if(per>=80 && per<90)

{

printf("grade b");

}

else if(per>=90)

{

printf("grade a");

}

getch();

}

**Program to input basic salary of employee and calculate its gross salary according to following:**

**Basic salary<=10,000 : HRA=20%,DA=80%**

**Basic salary <=20,000 : HRA =25% , DA = 90%**

**Basic salary>20,000: HRA =30% , DA= 95%**

#include<stdio.h>

#include<conio.h>

int main()

{

float basic\_sal,gross\_sal;

float da,hra;

clrscr();

printf("enter the basic salary");

scanf("%f",&basic\_sal);

if(basic\_sal<=10000)

{

da=basic\_sal\*0.8;

hra=basic\_sal\*0.2;

}

else if(basic\_sal<=20000)

{

da=basic\_sal\*0.9;

hra=basic\_sal\*0.25;

}

else

{

da=basic\_sal\*0.95;

hra=basic\_sal\*0.3;

}

gross\_sal=basic\_sal+da +hra;

printf("gross salary is : %.2f",gross\_sal);

getch();

return 1;

}

**Program to input electricity unit charges and calculate total electricity bill according to following:**

**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 to the bill.**

#include<stdio.h>

#include<conio.h>

void main()

{

int n;

float total\_result,net\_charge;

float amount;

clrscr();

printf("enter the units consumed");

scanf("%d",&n);

if(n<=50)

{

amount=n\*0.50;

}

else if(n<=150)

{

amount=25 + ((n-50)\*0.75);

}

else if(n<=250)

{

amount=100 + ((n-150)\*1.20);

}

else

{

amount=220 + ((n-250)\*1.50);

}

net\_charge=amount\*0.20;

total\_result=amount+net\_charge;

printf("total bill is : %2f",total\_result);

getch();

}

**LOOP:**

**Program to print all natural number from 1-n using while loop.**

#include<stdio.h>

#include<conio.h>

main()

{

int i=0,n;

clrscr();

printf("enter number upto print");

scanf("%d",&n);

while(n>=1)

{

printf("\n%d",n);

n--;

}

getch();

}

**Program to print all natural number in reverse from n-1.**

#include<stdio.h>

#include<conio.h>

main()

{

int i=0,n;

clrscr();

printf("enter number upto print");

scanf("%d",&n);

while(n>=1)

{

printf("\n%d",n);

n--;

}

getch();

}

**Program to print all alphabet from a-z using while loop.**

#include<stdio.h>

#include<conio.h>

main()

{

char ch='a';

clrscr();

while(ch<='z')

{

printf("%c ",ch);

ch++;

}

getch();

}

**Program to print all even numbers from 1-100 using while loop.**

#include<stdio.h>

#include<conio.h>

main()

{

int i=1;

clrscr();

while(i<=100)

{

if(i%2==0)

{

printf("%d ",i);

}

i++;

}

getch();

}

**Program to print all odd number from 1-100 .**

#include<stdio.h>

#include<conio.h>

main()

{

int i=1;

clrscr();

while(i<=100)

{

if(i%2!=0)

{

printf("%d ",i);

}

i++;

}

getch();

}

**Program to find sum of all natural number from 1-n.**

#include<stdio.h>

#include<conio.h>

void main()

{

int i=2,sum=0,n;

clrscr();

printf("enter number upto add:");

scanf("%d",&n);

while(i<n)

{

sum=sum+i;

i++;

}

printf("sum=%d",sum);

getch();

}

**Program to find sum of all even numbers from 1-n.**

#include<stdio.h>

#include<conio.h>

main()

{

int i=1,sum=0,n;

clrscr();

printf("enter number upto add");

scanf("%d",&n);

while(i<n)

{

if(i%2==0)

{

sum=sum+i;

}

i++;

}

printf("sum =%d",sum);

getch();

}

**Program to find sum of all odd number from 1-n.**

#include<stdio.h>

#include<conio.h>

main()

{

int i=1,sum=0,n;

clrscr();

printf("enter value upto add :");

scanf("%d",&n);

while(i<n)

{

if(i%2!=0)

{

sum=sum+i;

}

i++;

}

printf("sum=%d",sum) ;

getch();

}

**Program to print multiplication table of any number.**

#include<stdio.h>

#include<conio.h>

main()

{

int a,b=1;

clrscr();

printf("enter the number");

scanf("%d",&a);

while(b<=10)

{

printf("\n%d\*%d=%d",a,b,a\*b);

b++;

}

getch();

}

**Program to count number of digits in any number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a;

int count=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

while(a!=0)

{

a=a/10;

count++;

}

printf("%d",count);

getch();

}

**Program to find first and last digit of a number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

}

printf("first digit =%d\n",l);

printf("last digit =%d",n%10);

getch();

}

**Program to find sum of first and last digit of any number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,sum,q;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

}

q=n%10;

printf("%d",q+l);

getch();

}

**Program to swap first and last digit of any number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,q,temp=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

}

q=n%10;

printf("first digit =%d\n",l);

printf("last digit =%d\n",q);

printf("after swapping\n");

temp=l;

l= q;

q=temp;

printf("first digit =%d\n",l);

printf("last digit =%d\n",q);

getch();

}

**Program to calculate sum of all digits of any number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,sum=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

sum=sum+l;

}

printf("sum=%d",sum);

getch();

}

**Program to calculate product of all digits of number.**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,product=1;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

product=product\*l;

}

printf("product=%d",product);

getch();

}

**Write a c program to enter a number and print its reverse?**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,sum=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

sum=sum\*10+l;

}

printf("sum=%d",sum);

getch();

}

**Write a program to check whether a number is palindrome or not?**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,sum=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

sum=sum\*10+l;

}

if(sum==n)

{

printf("palindrome");

}

else

{

printf("not a palindrome ");

}

getch();

}

**Write a c program to find frequency of each digit in a given integer?**

#include<stdio.h>

#include<conio.h>

int main()

{

int n,i,num,rem=0,fre[10]={0,0,0,0,0,0,0,0,0,0};

clrscr();

printf("enter the number:");

scanf("%d",&n);

while(n!=0)

{

rem=n%10;

n=n/10;

fre[rem]=fre[rem]+1;

}

for(i=0;i<10;i++)

{

printf("\nfrequency of %d=%d",i,fre[i]);

}

getch();

return(0);

}

**Write a c program to enter a number and print it in words?**

#include<stdio.h>

#include<conio.h>

main()

{

long int a,l,n,i,freq[10]={0,0,0,0,0,0,0,0,0,0},rev=0;

clrscr();

printf("enter the number");

scanf("%ld",&a);

n=a;

while(a!=0)

{

l=a%10;

a=a/10;

rev=rev\*10+l;

}

while(rev!=0)

{

l=rev%10;

rev=rev/10;

switch(l)

{

case 0:

printf("zero ");

break;

case 1:

printf("one ");

break;

case 2:

printf("two ");

break;

case 3:

printf("three ");

break;

case 4:

printf("four ");

break;

case 5:

printf("five ");

break;

case 6:

printf("six ");

break;

case 7:

printf("seven ");

break;

case 8:

printf("eight ");

break;

case 9:

printf("nine ");

break;

}

}

getch();

}

**Write a c program to print all ASCII character with their values?**

#include<stdio.h>

#include<conio.h>

main()

{

char ch;

int i;

clrscr();

for(i=0;i<=127;i++)

{

ch=i;

printf("%d=%c\t ",i,ch);

}

getch();

}

**Write a c program to find power of a number using loop?**

#include<stdio.h>  
#include<conio.h>  
void main()

{

Int n,res=1,x,i;

Printf(“enter the number ”);

Scanf(“%d”,&n);

Printf(“enter the power to take”);

Scanf(“%d”,&x);

For(i=1;i<=x;i++)

{

res=res\*n;

}

Printf(“result=%d”,res);

getch();

}

**Write a c program to find all factors of a number ?**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,i;

clrscr();

printf("enter the number to find factor:");

scanf("%d",&n);

for(i=1;i<=n;i++)

{

if(n%i==0)

{

printf(" %d ",i);

}

}

getch();

return(0);

}

**Write a c program to calculate factorial of a number ?**

#include<stdio.h>

#include<conio.h>

int main()

{

int n,i,fact=1;

printf("enter the number:");

scanf("%d",&n);

for(i=1;i<=n;i++)

{

fact=fact\*i;

}

printf("%d",fact);

getch();

return(0);

}

**Write a c program to find HCF(GCD) of two numbers?**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,d,div,r,n,r1;

clrscr();

printf("enter first value = \n");

scanf("%d",&a);

printf("enter second value = \n");

scanf("%d",&b);

if(a>b)

{

n=a;

d=b;

}

else

{

n=b;

d=a;

}

while(r>0)

{

div=d;

r=n%d;

d=r;

n=div;

}

printf("hcf=%d",n);

getch();

}

**Write a c program to find LCM of two numbers?**

#include<stdio.h>

#include<conio.h>

void main()

{

int a,b,d,div,r,n,lcm;

clrscr();

printf("enter first value = \n");

scanf("%d",&a);

printf("enter second value = \n");

scanf("%d",&b);

if(a>b)

{

n=a;

d=b;

}

else

{

n=b;

d=a;

}

while(r>0)

{

div=d;

r=n%d;

d=r;

n=div;

}

lcm=(a\*b)/n;

printf("lcm=%d",lcm);

getch();

}

**Write a c program to check whether a number is prime number or not ?**

#include<stdio.h>

#include<conio.h>

void main()

{

int i,n;

clrscr();

printf("enter a number:");

scanf("%d",&n);

for(i=2;i<=n;i++)

{

if(n%i==0)

{

break;

}

}

if(i<n)

{

printf("not prime");

}

else

{

printf("prime");

}

getch();

return(0);

}

**Write a program to print all prime numbers between 1 to n?**

#include<stdio.h>

#include<conio.h>

main()

{

int n,i,j,div;

clrscr();

printf("enter number:");

scanf("%d",&n);

for(i=0;i<=n;i++)

{

div=0;

for(j=1;j<=i;j++)

{

if(i%j==0)

{

div++;

}

}

if(div==2)

{

printf("%d ",i);

}

}

getch();

}

**Write a c program to find sum of all prime numbers between 1 to n?**

#include<stdio.h>

#include<conio.h>

main()

{

int n,i,j,div,sum=0;

clrscr();

printf("enter number:");

scanf("%d",&n);

for(i=0;i<=n;i++)

{

div=0;

for(j=1;j<=i;j++)

{

if(i%j==0)

{

div++;

}

}

if(div==2)

{

printf("%d ",i);

sum=sum+i;

}

}

printf("\n sum of above prime number are= %d ",sum);

getch();

}

**Program to find prime factors of number.**

#include<stdio.h>

#include<conio.h>

main()

{

int n,i,j,div,sum=0;

clrscr();

printf("enter number:");

scanf("%d",&n);

for(i=2;i<=n;i++)

{

if(n%i==0)

{

div=0;

for(j=1;j<=i;j++)

{

if(i%j==0)

{

div++;

}

}

if(div==2)

{

printf("%d ",i);

}

}

}

getch();

}

**Program to check whether number is Armstrong number or not.**

#include<stdio.h>

#include<conio.h>

void main()

{

int sum=0,num,n,rem;

clrscr();

printf("enter number to check: ");

scanf("%d",&n);

num=n;

while(n!=0)

{

rem=n%10;

n=n/10;

sum=sum+(rem\*rem\*rem);

}

if(num==sum)

{

printf("amstrong number");

}

else

{

printf("not aamstrong number");

}

getch();

}

**Program to print all Armstrong numbers between 1-n.**

#include<stdio.h>

#include<conio.h>

main()

{

int n,i,sum=0,num,rem;

clrscr();

printf("enter number ");

scanf("%d",&n);

for(i=1;i<=n;i++)

{

num=i;

sum=0;

while(num>0)

{

rem=num%10;

num=num/10;

sum=sum+(rem\*rem\*rem);

}

if(i==sum)

{printf("%d ",i);}

}

getch();

}

**Program to check whether number is perfect number or not.**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,i,num,sum=0;

clrscr();

printf("enter the number to find factor:");

scanf("%d",&n);

num=n;

for(i=1;i<n;i++)

{

if(n%i==0)

{

sum=sum+i;

}

}

if(sum==num)

{

printf("perfect number");

}

else

{

printf("not perfect");

}

getch();

return(0);

}

**Program to print all perfects numbers between 1-n.**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,i,num,sum=0,j,l;

clrscr();

printf("enter the limit:");

scanf("%d",&l);

for(i=1;i<=l;i++)

{

sum=0;

for(j=1;j<i;j++)

{

if(i%j==0)

{

sum=sum+j;

}

}

if(sum==i)

{

printf("%d ",i);

}

}

getch();

return(0);

}

**Program to check whether number is strong number or not .**

#include<stdio.h>

#include<conio.h>

main()

{

int n,num,fact=1,r,i,sum=0;

clrscr();

printf("enter number");

scanf("%d",&n);

num=n;

while(n!=0)

{

r=n%10;

n=n/10;

fact=1;

for(i=1;i<=r;i++)

{

fact=fact\*i;

}

sum=sum+fact;

}

if(sum==num)

{

printf("strong number");

}

else

{

printf("not a strong number");

}

getch();

}

**Program to print all strong numbers between 1-n.**

#include<stdio.h>

#include<conio.h>

main()

{

int n,num,fact=1,r,i,sum=0,l,j;

clrscr();

printf("enter number");

scanf("%d",&l);

for(j=1;j<l;j++)

{

n=j;

sum=0;

while(n!=0)

{

r=n%10;

n=n/10;

fact=1;

for(i=1;i<=r;i++)

{

fact=fact\*i;

}

sum=sum+fact;

}

if(sum==j)

{

printf("%d\n",j);

}

}

getch();

}

**Program to print Fibonacci series up to n terms.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a=0,b=1,c,i,n;

printf("enter number for limit of series");

scanf("%d",&n);

printf("\n%d %d",a,b);

for(i=2;i<n;i++)

{

c=a+b;

printf(" %d",c);

a=b;

b=c;

}

getch();

}

**Program to find one’s complement of binary number.**

#include<stdio.h>

#include<conio.h>

int main()

{

int d,i,b[100]={0},n=0;

clrscr();

printf("Enter the number to find 1s compliment:");

scanf("%d",&d);

clrscr();

printf("binary number of %d:",d);

//binary convertion

while(d!=0)

{

b[n]=d%2;

d=d/2;

n++;

}

n--;

for(i=n;i>=0;i--)

{

if(b[i]==1)

{

b[i]=0;

}

else

{

b[i]=1;

}

printf("%d",b[i]);

}

getch();

return 0;

}

**Program to find two ‘s complement of binary number.**

#include<stdio.h>

#include<conio.h>

int main()

{

int d,i,b[100]={0},n=0;

clrscr();

printf("Enter the number to find 1s and 2s compliment:");

scanf("%d",&d);

clrscr();

printf("1s compiment of %d:",d);

//binary convertion

while(d!=0)

{

b[n]=d%2;

d=d/2;

n++;

}

n--;

//1s compliment

for(i=n;i>=0;i--)

{

if(b[i]==1)

{

b[i]=0;

}

else

{

b[i]=1;

}

printf("%d",b[i]);

}

//2s compliment

printf("\n2s compliment:");

b[0]=b[0]+1;

for(i=0;i<n;i++)

{

if(b[i]==2)

{b[i]=0;

b[i+1]=b[i+1]+1;

}

}

for(i=n;i>=0;i--)

{

printf("%d",b[i]);

}

getch();

return 0;

}

**Program to convert binary to decimal and octal number system.**

#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

int d,p=1,i,b[100]={0},dec=0,n=0;

clrscr();

printf("Enter the binay number to convert into octal:");

scanf("%d",&d);

clrscr();

printf("decimal number of (%d)2:",d);

while(d!=0)

{

b[n]=d%10;

p=pow(2,n);

dec=dec+(b[n]\*p);

d=d/10;

n++;

}

printf("%d",dec);

n=0;

while(dec!=0)

{

b[n]=dec%8;

dec=dec/8;

n++;

}

n--;

printf("\noctal:");

while(n!=-1)

{

printf("%d",b[n]);

n--;

}

getch();

return 0;

}

**Program to covert binary to hexadecimal number.**

#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

int p=1,i,b[100],n=0;

unsigned long long int d,dec=0;

clrscr();

printf("Enter the binay number to convert into Decimal and hexadecimal:");

scanf("%lld",&d);

clrscr();

printf("decimal number of (%lld)2:",d);

while(d!=0)

{

b[n]=d%10;

p=pow(2,n);

dec=dec+(b[n]\*p);

d=d/10;

n++;

}

printf("%lld",dec);

n=0;

while(dec!=0)

{

b[n]=dec%16;

dec=dec/16;

n++;

}

n--;

printf("\nhexadecimal:");

while(n!=-1)

{

switch(b[n])

{

case 10:printf("A");

break;

case 11: printf("B");

break;

case 12: printf("C");

break;

case 13: printf("D");

break;

case 14: printf("E");

break;

case 15:printf("F");

break;

default: printf("%d",b[n]);

}

n--;

}

getch();

return 0;

}

**Program to convert octal to decimal to binary number.**

#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

int d,p=1,i,b[100]={0},dec=0,n=0;

clrscr();

printf("Enter the octal number to convert into binary:");

scanf("%d",&d);

clrscr();

printf("binary number of (%d)8:",d);

while(d!=0)

{

b[n]=d%10;

p=pow(8,n);

dec=dec+(b[n]\*p);

d=d/10;

n++;

}

printf("%d",dec);

n=0;

while(dec!=0)

{

b[n]=dec%2;

dec=dec/2;

n++;

}

n--;

printf("\nBinary:");

while(n!=-1)

{

printf("%d",b[n]);

n--;

}

getch();

return 0;

}

**Program to convert octal to decimal and hexadecimal number.**

#include<stdio.h>

#include<conio.h>

#include<math.h>

int main()

{

int d,p=1,i,b[100]={0},dec=0,n=0;

clrscr();

printf("Enter the octal number to convert into binary:");

scanf("%d",&d);

clrscr();

printf("decimal number of (%d)8:",d);

while(d!=0)

{

b[n]=d%10;

p=pow(8,n);

dec=dec+(b[n]\*p);

d=d/10;

n++;

}

printf("%d",dec);

n=0;

while(dec!=0)

{

b[n]=dec%16;

dec=dec/16;

n++;

}

n--;

printf("\nHexadecimal:");

while(n!=-1)

{

switch(b[n])

{case 10:printf("A");

break;

case 11:printf("B");

break;

case 12:printf("C");

break;

case 13:printf("D");

break;

case 14:printf("E");

break;

case 15:printf("F");

break;

default:printf("%d",b[n]);

}

n--;

}

getch();

return 0;

}

**Program to convert decimal to binary.**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,b[32],i=0,j,v=0,o[10],t=0;

clrscr();

printf("enter any number");

scanf("%d",&n);

while(n!=0)

{

b[i]=n%2;

n=n/2;

i++;

}

printf("binary\n");

for(j=i-1;j>=0;j--)

{

o[v]=b[j];

v++;

printf("%d",b[j]);

}

getch();

}

**Program to convert decimal to octal number.**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,b[32],i=0,j,v=0,o[10],t=0;

clrscr();

printf("enter any number");

scanf("%d",&n);

while(n!=0)

{

b[i]=n%8;

n=n/8;

i++;

}

printf("octal\n");

for(j=i-1;j>=0;j--)

{

o[v]=b[j];

v++;

printf("%d",b[j]);

}

getch();

}

**Program to convert decimal to hexadecimal number.**

#include<stdio.h>

#include<conio.h>

void main()

{

int dec,b[32],n=0;

clrscr();

printf("enter any number");

scanf("%d",&dec);

while(dec!=0)

{

b[n]=dec%16;

dec=dec/16;

n++;

}

n--;

printf("\nHexadecimal:");

while(n!=-1)

{

switch(b[n])

{case 10:printf("A");

break;

case 11:printf("B");

break;

case 12:printf("C");

break;

case 13:printf("D");

break;

case 14:printf("E");

break;

case 15:printf("F");

break;

default:printf("%d",b[n]);

}

n--;

}

getch();

return 0;

}

**ARRAY :**

**Program to calculate sum of all integers and average of an array.**

#include<stdio.h>

#include<conio.h>

main()

{

int a[50]={0},sum=0,avg,i,n;

clrscr();

printf("enter length of array: ");

scanf("%d",&n);

printf("enter elements of array\n ");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<n;i++)

{

sum=sum+a[i];

}

avg=sum/n;

printf("sum of elements=%d\naverage=%d",sum,avg);

getch();

}

**Program to calculate sum of two one dimensional array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[100]={0},b[100]={0},c[100]={0};

int sum=0,i,n,m,d;

clrscr();

printf("enter number if elements in first array");

scanf("%d",&n);

printf("enter elements\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("enter number if elements in second array");

scanf("%d",&m);

printf("enter elements\n");

for(i=0;i<m;i++)

{

scanf("%d",&b[i]);

}

if(m>n)

{

d=m;

}

else

{

d=n ;

}

for(i=0;i<d;i++)

{

c[i]=b[i]+a[i];

}

for(i=0;i<d;i++)

{

printf("%d\n",c[i]);

}

}

**Program to find two largest element in given array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,j,n,temp=0;

clrscr();

printf("enter number of elements");

scanf("%d",&n);

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if(a[i]<a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

for(i=0;i<n;i++)

{

printf("\n%d\n",a[i]);

}

printf("two largest number of array are= %d and %d",a[0],a[1]);

getch();

}

**Program to find second largest and smallest element of array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,j,n,temp=0;

clrscr();

printf("enter number of elements");

scanf("%d",&n);

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if(a[i]<a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

printf(" second largest number of array = %d and second smallest of an array=%d",a[1],a[n-1]);

getch();

}

**Program to find largest number of array.**

**#include<stdio.h>**

**#include<conio.h>**

**void main()**

**{**

**int a[50]={0},i,j,n,temp=0;**

**clrscr();**

**printf("enter number of elements");**

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

**for(i=0;i<n;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**for(i=0;i<n;i++)**

**{**

**for(j=i+1;j<n;j++)**

**{**

**if(a[i]<a[j])**

**{**

**temp=a[i];**

**a[i]=a[j];**

**a[j]=temp;**

**}**

**}**

**}**

**printf(" largest number of array = %d ",a[0]);**

**getch();**

**}**

**Program to put even and odd elements of an array in two different arrays.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i=0,n=0,j=0,k=0,e[50]={0},o[50]={0};

clrscr();

printf("enter number of array elements \n");

scanf("%d",&n);

printf("\nenter array elements\n");

for(i=0;i<n;i++)

{

scanf("%d/n",&a[i]);

}

for(i=0;i<n;i++)

{

if(a[i]%2==0)

{

e[j]=a[i];

j++;

}

else

{

o[k]=a[i];

k++;

}

}

printf("array of even :\n");

for(i=0;i<j;i++)

{

printf("\n%d",e[i]);

}

printf("array of odd :\n");

for(i=0;i<k;i++)

{

printf("\n%d",o[i]);

}

getch();

}

**Program to insert an element at specified position in given array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},num,len,i,pos,value;

clrscr();

printf("enter array length\n");

scanf("%d",&len);

printf("enter array element\n");

for(i=0;i<len;i++)

{

scanf("%d",&a[i]);

}

printf("enter element to be inserted:\n");

scanf("%d",&value);

printf("enter position to be inserted\n");

scanf("%d",&pos);

pos=pos--;

for(i=len;i>=0;i--)

{

a[i]=a[i-1];

if(i==pos)

{

a[i]=value;

break;

}

}

for(i=0;i<=len;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to delete specified integer from an array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},num,len,i;

clrscr();

printf("enter array length");

scanf("%d",&len);

printf("enter array element");

for(i=0;i<len;i++)

{

scanf("%d",&a[i]);

}

printf("enter element to be deleted");

scanf("%d",&num);

for(i=0;i<len;i++)

{

if(a[i]==num)

{

a[i]=a[i+1];

}

}

for(i=0;i<len-1;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to cyclically permute elements of an array.**

#include<stdio.h>

#include<conio.h>

void main()

{

char a[10]={0};

int i,n,temp;

clrscr();

printf("enter number of elements:\n");

scanf("%d",&n);

printf("enter value of elements:\n");

for(i=0;i<n;i++)

{

scanf("%s",&a[i]);

}

temp=a[0];

for(i=0;i<n-1;i++)

{

a[i]=a[i+1];

}

a[n-1]=temp;

printf("cyclically permutation:\n");

for(i=0;i<n;i++)

{

printf("%c\n",a[i]);

}

getch();

}

**Program to sort an array in ascending order.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0};

int i,j,temp,n;

clrscr();

printf("enter array length: ");

scanf("%d",&n);

printf("enter array element:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("ascending array\n");

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if(a[i]>a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

for(i=0;i<n;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to sort an array in descending order.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0};

int i,j,temp,n;

clrscr();

printf("enter array length: ");

scanf("%d",&n);

printf("enter array element:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("descending array\n");

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if(a[i]<a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

for(i=0;i<n;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to merge and sort elemnts of two different array.**

**#include<stdio.h>**

**#include<conio.h>**

**main()**

**{**

**int a[50]={0},b[50]={0},c[50];**

**int i,m,n,p,j,temp;**

**clrscr();**

**printf("enter number of elemntsof 1st array:\n ");**

**scanf("%d",&m);**

**m=m--;**

**printf("enter value of elements\n");**

**for(i=0;i<=m;i++)**

**{**

**scanf("%d",&a[i]);**

**}**

**printf("enter number of elemnts of 2nd array:\n ");**

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

**n=n--;**

**printf("enter value of elements\n");**

**for(i=0;i<=n;i++)**

**{**

**scanf("%d",&b[i]);**

**}**

**if(m>n)**

**p=m;**

**else**

**p=n;**

**for(i=0;i<=p;i++)**

**{**

**if(i<=m)**

**c[i]=a[i];**

**if(i<=n)**

**c[i+m+1]=b[i];**

**}**

**printf("merged array is:\n");**

**for(i=0;i<=(m+n+1);i++)**

**{**

**printf("%d\n",c[i]);**

**}**

**for(i=0;i<=m+n+1;i++)**

**{**

**for(j=i+1;j<=m+n+1;j++)**

**{**

**if(c[i]>c[j])**

**{**

**temp=c[i];**

**c[i]=c[j];**

**c[j]=temp;**

**}**

**}**

**}**

**printf("sorted array is:\n");**

**for(i=0;i<=(m+n+1);i++)**

**{**

**printf("%d\n",c[i]);**

**}**

**getch();**

**}**

**Program to merge elements of two sorted array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},b[50]={0},c[50]={0},i,n,m,p;

clrscr();

printf("\*NOTE\*ARRAY MUST BE SORTED\n");

printf("enter 1st array length\n");

scanf("%d",&n);

printf("enter 1st array element\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("enter 2nd array length\n");

scanf("%d",&m);

printf("enter 2nd array element\n");

for(i=0;i<m;i++)

{

scanf("%d",&b[i]);

}

if(m>n)

p=m;

else

p=n;

for(i=0;i<p;i++)

{

if(i<n)

c[i]=a[i];

if(i<m)

c[i+n]=b[i];

}

for(i=0;i<=m+n-1;i++)

{

printf("%d\n",c[i]);

}

getch();

}

**Program to sort n numbers in ascending order using bubble sort.**

#include<stdio.h>

#include<conio.h>

main()

{

int a[50]={0},i,j,len,n,temp;

clrscr();

printf("enter length of array:\n");

scanf("%d",&len);

n=len;

len=len-1;

printf("enter elements:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<len-1;i++)

{

for(j=0;j<len-i;j++)

{

if(a[j]>a[j+1])

{

temp=a[j];

a[j]=a[j+1];

a[j+1]=temp;

}

}

}

for(i=0;i<n;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to spilt an array from specified position and add first part to the end .**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,n,pos,j=0;

clrscr();

printf("enter length of array:\n");

scanf("%d",&n);

printf("enter elements of array:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("enter location to split");

scanf("%d",&pos);

for(i=0;i<n+pos;i++)

{

if(i<pos)

{

a[n]=a[j];

j++;

n++;

}

}

for(i=pos;i<n;i++)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to read an array and search for an element.**

#include<stdio.h>

#include<conio.h>

main()

{

int a[50]={0};

int i,j,n,value,flag=0;

clrscr();

printf("enter length of array:\n");

scanf("%d",&n);

printf("enter elements of array:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("enter value to search: ");

scanf("%d",&value);

for(i=0;i<n;i++)

{

if(a[i]==value)

{

printf("%d is present at location : %d",value,++i);

flag=1;

}

}

if(flag==0)

printf("value not found");

getch();

}

**Program to accept an sorted array and do search using binary search.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,f,l,mid,value,n;

clrscr();

printf("\t\*\*ARRAY MUST BE SORTED\*\* /n ");

printf("enter length of array:\n");

scanf("%d",&n);

printf("enter elements of array:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

f=a[0];

l=a[n-1];

mid=(f+l)/2;

while(first<=last)

{

if(a[mid]<value)

{

f=mid+1;

}

else if(a[mid]==value)

{

printf("%d value found at location %d ",value,mid+1);

break;

}

else

{

l=mid-1;

}

mid=(f+l)/2;

}

if(f>l)

printf("value not found");

getch();

}

**Program to print number of odd and even numbers in an array.**

#include<stdio.h>

#include<conio.h>

main()

{

int a[50]={0},b[50]={0},c[50]={0};

int i,n=0,even=0,odd=0;

clrscr();

printf("enter number of elements:\n");

scanf("%d",&n);

printf("enter value of elements:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<n;i++)

{

if(a[i]%2==0)

{

even++;

}

else

{

odd++;

}

}

printf("number of even elements=%d\nnumber of odd elemnts=%d",even,odd);

getch();

}

**Program to input string and store its ascii value.**

#include<stdio.h>

#include<conio.h>

void main()

{

char a[10];

int b[10];

int i,len;

clrscr();

printf("enter the length\n");

scanf("%d",&len);

printf("enter the string\n");

for(i=0;i<=len;i++)

{

scanf("%c",&a[i]);

}

for(i=0;i<=len;i++)

{

b[i]=a[i];

}

for(i=0;i<=len;i++)

{

printf("%d ",b[i]);

}

getch();

}

**program to find number of elemnts in an array.**

#include<stdio.h>

#include<conio.h>

main()

{

int a[50]={0},j,i=0,count;

char ch='y';

clrscr();

while(ch=='y')

{

printf("enter array element: ");

scanf("%d",&a[i]);

i++;

printf("if you want to add more elemnt press y: ");

scanf("%s",&ch);

}

printf("array is :\n");

for(j=0;j<i;j++)

{

printf("%d\n",a[j]);

}

printf("number of elemnts: %d",i);

getch();

}

**Program to print alternate elements of an array .**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,n;

clrscr();

printf("enter number of elements:\n");

scanf("%d",&n);

printf("enter value of elements:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("alternate values of array are:\n");

for(i=0;i<n;i=i+2)

{

printf("%d\n",a[i]);

}

getch();

}

**Program to increment every element of array by one and print incremented array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,n;

clrscr();

printf("enter number of elements:\n");

scanf("%d",&n);

printf("enter value of elements:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("incremented array are:\n");

for(i=0;i<n;i++)

{

printf("%d\n",a[i]+1);

}

getch();

}

**Program to find non repeated elements in an array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[5];

int count=0,i,j;

clrscr();

printf("enter the elements \n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<5;i++)

{

for(j=i+1;j<5;j++)

{

if(a[i]!=a[j])

count++;

}

}

printf("no of non repeated elements in the array =%d",count-5);

getch();

}

**program to find intersection and union of two arrays.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[5];

int b[5];

int i;

clrscr();

printf("enter the elements of the first array\n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

printf("enter the elements of the second array\n");

for(i=0;i<5;i++)

{

scanf("%d",&b[i]);

}

printf("intersection\n");

for(i=0;i<5;i++)

{

if(a[i]==b[i])

printf("%d ",a[i]);

}

printf("\nunion\n");

for(i=0;i<5;i++)

{

if(a[i]!=b[i])

printf("%d",a[i]);

printf("%d",b[i]);

}

getch();

}

**Program to to find 2 elemnts in array such that difference between them is largest.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[5];

int b[5];

int i,j,k,temp;

int diff;

clrscr();

printf("enter the elements for the array\n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

for(j=0;j<5;j++)

{

for(k=j+1;k<5;k++)

{

if(a[j]<a[k])

{

temp=a[j];

a[j]=a[k];

a[k]=temp;

}

}

}

for(i=0;i<5;i++)

{

printf("%d",a[i]);

}

diff=a[0]-a[4];

printf("\nlargest element is =%d",a[0]);

printf("\nsmallest element is=%d",a[4]);

printf("\ndifference is %d",diff);

getch();

}

**Program to input an araay and store the squares of these elements in An array and print it.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0},i,n;

clrscr();

printf("enter number of elements:\n");

scanf("%d",&n);

printf("enter value of elements:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("square array are:\n");

for(i=0;i<n;i++)

{

printf("%d\n",a[i]\*a[i]);

}

getch();

}

**program to find two elements such that their sum is closest to zero.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[5];

int b[5];

int i,j,k,temp;

int diff;

clrscr();

printf("enter the elements for the array\n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

for(j=0;j<5;j++)

{

for(k=j+1;k<5;k++)

{

if(a[j]<a[k])

{

temp=a[j];

a[j]=a[k];

a[k]=temp;

}

}

}

for(i=0;i<5;i++)

{

printf("%d",a[i]);

}

diff=a[3]-a[4];

printf("\nsmallest element is=%d",a[4]);

printf("\n second smallest element=%d",a[3]);

printf("\ndifference is =%d",diff);

getch();

}

**Program find median of arrays.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[50]={0};

int i,j,temp,n;

float m;

clrscr();

printf("enter array length: ");

scanf("%d",&n);

printf("enter array element:\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("descending array\n");

for(i=0;i<n;i++)

{

for(j=i+1;j<n;j++)

{

if(a[i]<a[j])

{

temp=a[i];

a[i]=a[j];

a[j]=temp;

}}

}

printf("sorted array is");

for(i=0;i<n;i++)

{

printf("%d\n",a[i]);

}

if(n%2==0)

{

m=(float) (a[(n/2)-1]+a[(n/2)])/2;

}

else

{

m=(float)a[(n/2)];

}

printf("median=%0.2f",m);

getch();

}

**Program to check missing values in array.**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[5];

int b[5];

int i;

clrscr();

printf("enter the elements of the first array\n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

printf("enter the elements of the second array\n");

for(i=0;i<5;i++)

{

scanf("%d",&b[i]);

}

printf("intersection\n");

for(i=0;i<5;i++)

{

if(a[i]==b[i])

printf("%d ",a[i]);

}

printf("\nunion\n");

for(i=0;i<5;i++)

{

if(a[i]!=b[i])

printf("%d",a[i]);

printf("%d",b[i]);

}

getch();

}

**FUNCTIONS:-**

1. **Write C code that will display the calculator menu.**

The program will prompt the user to choose the operation choice (from 1 to 5). Then it asks the user to input two integer vales for the calculation. See the sample below.  
  MENU  
          1. Add  
          2. Subtract  
          3. Multiply  
          4. Divide  
          5. Modulus  
Enter your choice: 1  
Enter your two numbers: 12 15  
Result: 27  
   
Continue? y  
   
The program also asks the user to decide whether he/she wants to continue the operation. If he/she input ‘y’, the program will prompt the user to choose the operation gain. Instead, the program will terminate.

#include<stdio.h>

#include<conio.h>

sum(int a,int b)

{

int c;

c=a+b;

printf("sum=%d",c);

}

sub(int a,int b)

{

int c;

c=a-b;

printf("subtraction=%d",c);

}

multi(int a,int b)

{

int c;

c=a\*b;

printf("multiply=%d",c);

}

divide(int a,int b)

{

int c;

c=a/b;

printf("devide=%d",c);

}

void main()

{

int a,b,ch;

clrscr();

printf("enter first number");

scanf("%d",&a);

printf("enter second number");

scanf("%d",&b);

printf("enter your choice: \n1-add\n2-sub\n3-multiply\n4-divide/n");

scanf("%d",&ch);

switch(ch)

{

case 1 :

sum(a,b);

break;

case 2 :

sub(a,b);

break;

case 3 :

multi(a,b);

break;

case 4 :

divide(a,b);

break;

}

getch();

}

**Program to use selection sort algorithm to sort an integer array in ascending order.**

#include<stdio.h>

#include<conio.h>

sort(int elements)

{

int i,j,temp;

for(i=0;i<elements;i++)

{

for(j=i+1;j<elements;j++)

{

if(a[i]>a[j])

{

temp=a[i] ;

a[i]=a[j] ;

a[j]=temp;

}

}

}

}

void main()

{

int a[20]={0},elements;

printf("enter number of elements :");

scanf("%d",&elements);

printf("enter elements ");

for(i=0;i<elements;i++);

{

scanf("%d",&a[i]);

}

sort(elements);

for(i=0;i<elements;i++)

{

printf("%d",a[i]);

}

getch();

}

**Program that will ask the user to input three values and then print smallest and largest vales.**

#include<stdio.h>

#include<conio.h>

int a,b,c;

void check()

{

if(a==b&&b==c)

{

printf("all are equal : %d=%d=%d",a,b,c);

}

else if(a==b)

{

if(a>c)

{

printf("a and b are equal and highest:%d and c is smallest =%d",a,c);

}

else

{

printf("c is greater:%d and b and a are smallest=%d",c,b);

}

}

else if(a==c)

{

if(a>b)

{

printf("a and c are equal and highest: %d and b is smallest =%d",a,b);

}

else

{

printf("b is greater : %d and smallest are c&a=%d",b,c);

}

}

else if(b==c)

{

if(b>a)

{

printf("b and c are equal and highest: %d and a is smallest=%d",b,a);

}

else

{

printf("a is greater :%d smallest are b&c=%d",a,b);

}

}

else if(a>b&&a>c)

{

printf("a is greater : %d ",a);

if(b<c)

printf("b is smallest=%d",b);

else

printf("c is smallest=%d",c);

}

else if(b>a&&b>c)

{

printf("b is greater : %d ",b);

if(a<c)

printf("a is smallest=%d",a);

else

printf("c is smallest=%d",c);

}

else if(c>a&&c>b)

{

printf("c is greater: %d ",c);

if(a<b)

printf("a is smallest=%d",a);

else

printf("b is smallest=%d",b);

}

}

void main()

{

clrscr();

printf("enter the first value:");

scanf("%d",&a);

printf("enter the second value:");

scanf("%d",&b);

printf("enter the third value");

scanf("%d",&c);

check();

getch();}

**program to display all prime numbers between 1-n.**

**#include<stdio.h>**

**#include<conio.h>**

**int n,i,j,div;**

**void prime()**

**{**

**for(i=0;i<=n;i++)**

**{**

**div=0;**

**for(j=1;j<=i;j++)**

**{**

**if(i%j==0)**

**{**

**div++;**

**}**

**}**

**if(div==2)**

**{**

**printf("%d ",i);**

**}**

**}**

**}**

**main()**

**{**

**clrscr();**

**printf("enter number:");**

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

**prime();**

**getch();**

**}**

**Program to check prime and amstrong number .**

#include<stdio.h>

#include<conio.h>

int n;

void prime()

{

int i;

for(i=2;i<=n;i++)

{

if(n%i==0)

{

break;

}

}

if(i<n)

{

printf("not prime");

}

else

{

printf("prime");

}

}

void ams()

{ int num,sum=0,rem;

num=n;

while(n!=0)

{

rem=n%10;

n=n/10;

sum=sum+(rem\*rem\*rem);

}

if(num==sum)

{

printf("amstrong number");

}

else

{

printf("not aamstrong number");

}

}

void main()

{

int choice;

clrscr();

printf("enter number: ");

scanf("%d",&n);

printf("\nwhat do you want to check\n1:prime\t2:armstrong\nenter choice: ");

scanf("%d",&choice);

if(choice==1)

prime();

else if(choice==2)

ams();

else

printf("invalid choice");

getch();

}

**Program to calculate power of number using function.**

#include<stdio.h>

#include<conio.h>

int n,p;

void power()

{

int prod=1,i;

for(i=1;i<=p;i++)

{

prod=prod\*n;

}

printf("power of %d=%d",n,prod);

}

void main()

{

clrscr();

printf("enter number: ");

scanf("%d",&n);

printf("enter power: ");

scanf("%d",&p);

power();

getch();

}

**Program to find square of any number using the function.**

#include<stdio.h>

#include<conio.h>

int n;

void sqr()

{

int square;

square=n\*n;

printf("square of %d=%d",n,square);

}

void main()

{

clrscr();

printf("enter number: ");

scanf("%d",&n);

sqr();

getch();

}

**Program to swap two numbers using function.**

#include<stdio.h>

#include<conio.h>

int a,b;

void swap()

{

int temp;

temp=a;

a=b;

b=temp;

printf("a=%d\nb=%d",a,b);

}

void main()

{

clrscr();

printf("enter values of a and b\n");

printf("a: ");

scanf("%d",&a);

printf("b: ");

scanf("%d",&b);

printf("after swaping\n");

swap();

getch();

}

**Write a program in C to find the sum of the series 1!/1+2!/2+3!/3+4!/4+5!/5 using the function.** 

#include<stdio.h>

#include<conio.h>

int x,n,s=0;

int fact(int x)

{

int i,f=1;

n=x;

for(i=1;i<=n;i++)

{

f=f\*i;

s=s+(f/i);

}

return(s);

}

void main()

{

int a;

clrscr();

printf("enter last number of series:");

scanf("%d",&n);

a=fact(n);

printf("series= %d",a);

getch();

}

**Write a C programming to find out maximum and minimum of some values using function which will return an array**. 

#include<stdio.h>

#include<conio.h>

int n;

void check()

{

int a[50]={0},i,h=0;

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

if(a[i]>h)

h=a[i];

}

printf("%d",h);

}

void main()

{

clrscr();

printf("enter length of array: ");

scanf("%d",&n);

printf("enter elements of array\n");

check();

getch();

}

**Program to print all perfect numbers between given range.**

#include<stdio.h>

#include<conio.h>

int u,l;

void check()

{

int n,i,num,sum=0,j;

for(i=l;i<=u;i++)

{

sum=0;

for(j=1;j<i;j++)

{

if(i%j==0)

{

sum=sum+j;

}

}

if(sum==i)

{

printf("%d ",i);

}

}

}

void main()

{

clrscr();

printf("enter the lower limit:");

scanf("%d",&l);

printf("enter the upper limit:");

scanf("%d",&u);

check();

getch();

}

**Program to check whether number is prime or not .**

#include<stdio.h>

#include<conio.h>

int n;

void prime()

{

int i;

for(i=2;i<=n;i++)

{

if(n%i==0)

{

break;

}

}

if(i<n)

{

printf("not prime");

}

else

{

printf("prime");

}

}

void main()

{

int choice;

clrscr();

printf("enter number: ");

scanf("%d",&n);

prime();

getch();

}

\*\*\*\*\*\*\*\*\*\*\*