**Q)PROGRAM TO CONVERT DECIMAL NUMBER TO BINARY USING WHILE LOOP**

#include<stdio.h>

#include<conio.h>

void main()

{

long int n,rem,a=1,no=0;

clrscr();

printf("Enter a decimal number\n");

scanf("%ld",&n);

while(n!=0)

{

rem=n%2;

no=no+rem\*a;

a=a\*10;

n=n/2;

}

printf("Binary value=%ld\n",no);

getch();

}

**OUTPUT**

Enter a decimal number

35

Binary value=100011

**Q)PROGRAM TO GENERATE FIBBONACI SERIES UPTO N NUMBERS**

#include<stdio.h>

#include<conio.h>

void main()

{

int i=0,n,fib1=0,fib2=1,fib;

clrscr();

printf("Enter n value\n");

scanf("%d",&n);

printf("Fibonacci series are:\n");

printf("%d %d",fib1,fib2);

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

{

fib=fib1+fib2;

fib1=fib2;

fib2=fib;

printf(" %d ",fib);

}

getch();

}

**OUTPUT**

Enter n value 10

Fibonacci series are:

0 1 1 2 3 5 8 13 21 34 \*/

**Q)AN ELECTRICITY SUPPLY COMPANY CHARGES ITS CONSUMER ACCORDING TO THE SLAB RATES**

**UNIT CHARGES**

**1-100 1 .00 RS.**

**101-300 2.00 RS.**

**301-500 3.00 RS**

**501 & ABOVE 5.00 RS**

**PROGRAM TO ACCEPT THE NUMBER OF UNITS CALUCLATE THE CHARGES USING ABOVE SLAB RATE**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,r,p,a=0;

clrscr();

printf("Enter number of units\n");

scanf("%d",&n);

if(n>500)

{

r=n-500;

n=n-r;

p=r\*4;

a=a+p;

}

if(n>300)

{

r=n-300;

n=n-r;

p=r\*3;

a=a+p;

}

if(n>100)

{

r=n-100;

n=n-r;

p=r\*2;

a=a+p;

}

if(n<=100)

{

r=n;

p=r\*1;

a=a+p;

}

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

getch();

}

**/\*OUTPUT**

Enter number of units

535

Amount=1240 \*/

**Q)PROGRAM TO CHECK WHETHER THE GIVEN NUMBER IS PALINDROME OR NOT AND ALSO FIND THE NUMBEROF DIGIT AND SUM OF THE DIGIT**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,rem,rev=0,count=0,temp,sum=0;

clrscr();

printf("Enter the Number\n");

scanf("%d",&n);

temp=n;

do

**OUTPUT**

Enter the Number

563

It is not a palindrome

Sum of the digit=14

Number of the digit=3

Enter the Number

646

It is a palindrome

Sum of the digit=16

Number of the digit=3

{

rem=n%10;

rev=rev\*10+rem;

count++;

sum=sum+rem; n=n/10;

}

while(n!=0);

if(temp==rev)

printf("It is a palindrome\n");

else

printf("It is not a palindrome\n");

printf("Sum of the digit=%d\n",sum);

printf("Number of the digit=%d\n",count);

getch();

}

**Q)PROGRAM TO PERFORM QUADRATIC EQUATION**

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

float a,b,c,disc,realp,imagp,root1,root2;

clrscr();

printf("Enter three values\n");

scanf("%f%f%f",&a,&b,&c);

if(a==0 && b==0 && c==0)

{

printf("Roots can't be determined\n");

}

else

{

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

if(disc==0)

{

printf("Roots are real and equal\n");

root1=-b/(2\*a);

root2=root1;

printf("root1=%f\n",root1);

printf("root2=%f\n",root2);

}

if(disc>0)

{

**OUTPUT**

1) Enter three values

1

5

6

Roots are real and distinct

Root1=-2.000000

Root2=-3.000000

2)Enter three values

1

5

6

Roots are real and distinct

Root1=-2.000000

Root2=-3.000000

3)Enter three values

5

3

2

Imaginary roots

Root1=-0.300000+i0.556776

Root2=-0.300000-i0.556776

printf("Roots are real and distinct\n");

root1=(-b+sqrt(disc))/2\*a;

root2=(-b-sqrt(disc))/2\*a;

printf("Root1=%f\n",root1);

printf("Root2=%f\n",root2);

}

if(disc<0)

{

printf("Imaginary roots\n");

realp=-b/(2\*a);

imagp=sqrt(abs(disc))/(2\*a);

printf("Root1=%f+i%f\n",realp,imagp);

printf("Root2=%f-i%f\n",realp,imagp);

}

}

getch();

}

**Q)PROGRAM TO CHECK WHETHER THE GIVEN NUMBER IS PRIMEOR NOT**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,k=2,rem,flag=1;

clrscr();

printf("Enter a number\n");

scanf("%d",&n);

if(n==1)

{

**OUTPUT**

Enter a number

1

It is a composite number

Enter a number

5

It is a prime number

Enter a number

6

It is a prime number

printf("it is a composite number\n");

exit(0);

}

while(k<n && flag==1)

{

rem=n%k;

if(rem==0)

{

flag=0;

}

k++;

}

if(flag==1)

{

printf("It is a prime number\n");

}

else

{

printf("It is not a prime number\n");

}

getch(); }

**Q)PROGRAM TO GENERATE PRIME NUMBER UPTO N NUMBERS\*/**

#include<stdio.h>

#include<conio.h>

void main()

{

Enter a number

60

Prime numbers are

2

3

5

7

11

13

17

19

23

29

31

37

41

43

47

53

59

Number of prime =17

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

clrscr();

printf("Enter a number\n");

scanf("%d",&n);

printf("Prime numbers are\n");

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

{

flag=0;

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

{

if(j%i==0)

{

flag=1;

break;

}

}

if(flag==0)

{

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

count++;

}

}

printf("Number of prime =%d\n",count);

getch();

}

**Q)PROGRAM TO PERFORM AIRTHMETIC OPERATION USING SWITCH**

#include<stdio.h>

#include<conio.h>

void main()

{

float a,b,c;

int ch;

clrscr();

printf("1.Addition\n2.Substraction\n3.Multiplication\n4.Division\n");

printf("Enter your choice\n");

scanf("%d",&ch);

switch(ch)

{

case 1:

printf("Enter two numbers\n");

scanf("%f%f",&a,&b);

c=a+b;

printf("sum=%.2f\n",c);

break;

case 2:

printf("Enter two numbers\n");

scanf("%f%f",&a,&b);

c=a-b;

printf("Difference=%.2f\n",c);

break;

case 3:

printf("Enter two numbers\n");

scanf("%f%f",&a,&b);

c=a\*b;

printf("Product=%.2f\n",c);

break;

case 4:

/\*OUTPUT

1.Addition 1.Addition

2.Substraction 2.Substraction

3.Multiplication 3.Multiplication

4.Division 4.Division

Enter your choice Enter your choice

1 4

Enter two numbers Enter two numbers

5.6 9

3 3

sum=8.60 Quoitent=3

1.Addition

2.Substraction

3.Multiplication

4.Division

Enter your choice

2

Enter two numbers

9

11

Difference=-2.00

1.Addition

2.Substraction

3.Multiplication

4.Division

Enter your choice

3

Enter two numbers

5

3.2

Product=16.00

Enter your choice

6

Invalid choice \*/

printf("Enter two numbers\n");

scanf("%f%f",&a,&b);

c=a/b;

printf("Quoitent=%.2f\n",c);

break;

default:

printf("Invalid choice\n");

exit(0);

}

getch();

}

**//PROGRAM TO GENERATE ARMSTRONG NUMBER**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,i,sum,num,r;

clrscr();

printf("Enter n value\n");

scanf("%d",&n);

printf("The Armstrong Numbers upto %d are\n",n);

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

{

num=i;

sum=0;

while(num>0)

{

r=num%10;

OUTPUT

Enter n value

500

The Armstrong Numbers upto 500 are

1

153

370

371

407

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

num=num/10;

}

if(sum==i)

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

}

getch();

}

**//PROGRAM TO CONVERT BINARY NUMBER INTO DECIMAL**

#include<stdio.h>

#include<conio.h>

void main()

{

long int n,rem;

int d,j=1,dec=0;

clrscr();

printf("Enter binary number\n");

scanf("%ld",&n);

while(n!=0)

{

rem=n%10;

d=j\*rem;

dec=dec+d;

j=j\*2;

n=n/10;

}

printf("Decimal number is %d\n",dec);

getch();

}

**/\*OUTPUT**

Enter binary number

1010111

Decimal number is 87 \*/

**/\*PROGRAM TO Sum of N numbers using continue statement\*/**

#include<stdio.h>

/\*OUTPUT

Enter n value

5

Enter numbers

1

6

9

5

8

Sum=29

Enter n value

5

Enter numbers

1

3

-5

Enter only positive number

4

7

6

Sum=21 \*/

#include<conio.h>

void main()

{

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

clrscr();

printf("Enter n value\n");

scanf("%d",&n);

printf("Enter numbers\n");

while(i<=n)

{

scanf("%d",&num);

if(num<0)

{

printf("Enter only positive number\n");

continue;

}

sum=sum+num;

i++;

}

printf("Sum=%d\n",sum);

getch();

}

**/\*PROGRAM TO FIND MAXIMUM AND MINIMUM OF N NUMBERS**

**WITHOUT USING ARRAYS\*/**

#include<stdio.h>

#include<conio.h>

void main()

{

int n,num,max,min,i=1;

/\*OUTPUT

Enter n value

8

Enter numbers

6

3

4

1

9

11

18

2

Minimum number=1

Maximum number=18

clrscr();

printf("Enter n value\n");

scanf("%d",&n);

printf("Enter numbers\n");

while(i<=n)

{

scanf("%d",&num);

if(i==1)

min=max=num;

if(min>num)

min=num;

if(max<num)

max=num;

i++;

}

printf("Minimum number=%d\n",min);

printf("Maximum number=%d\n",max);

getch();

}

**//PROGRAM TO FIND STUDENT GRADE**

#include<stdio.h>

#include<conio.h>

void main()

{

int s1,s2,s3,s4,s5,s6;

float total,avg;

clrscr();

printf("Enter 6 subjects marks\n");

scanf("%d%d%d%d%d%d",&s1,&s2,&s3,&s4,&s5,&s6);

total=s1+s2+s3+s4+s5+s6;

avg=total/6;

if(s1<40 || s2<40 || s3<40 || s4<40 || s5<40 || s6<40)

{

/\* OUTPUT

Enter 6 subjects marks

45 55 56 65 78 96

First class

Total=395.00

Average=65.83

Enter 6 subjects marks

56 65 39 45 55 63

Fail

Total=323.00

Average=53.83

Enter 6 subjects marks

55 59 58 57 54 52

Second class

Total=335.00

Average=55.83

Enter 6 subjects marks

89 88 87 86 85 99

Distinction

Total=534.00

Average=89.00

Enter 6 subjects marks

41 40 45 48 49 40

Third class

Total=263.00

Average=43.83 \*/

printf("Fail\n");

}

else

{

if(avg>=85)

{

printf("Distinction\n");

}

else if(avg<85 && avg>=60)

{

printf("First class\n");

}

else if(avg<60 && avg>=50)

{

printf("Second class\n");

}

else if(avg<50 && avg>=40)

{

printf("Third class\n");

}

}

printf("Total=%.2f\n",total);

printf("Average=%.2f\n",avg);

getch();

}

**//PROGRAM TO INSERT AN ELEMENT IN SPECIFIC POSITION TO AN ARRAY**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[100],i,n,ele,pos,x,y;

clrscr();

printf("Enter the size of array\n");

scanf("%d",&n);

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

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

{

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

}

printf("Enter which element do u want to insert\n");

scanf("%d",&ele);

printf("Where you want to insert\n");

scanf("%d",&pos);

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

{

if(i==pos)

{

x=a[i];

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

{

y=a[i+1];

a[i+1]=x;

x=y;

}

}

}

a[pos]=ele;

/\*OUTPUT

Enter the size of array

5

Enter elements of array

9

8

7

6

5

Enter which element do u want to insert

4

Where you want to insert

2

After insertion

9

8

4

7

6

5

Enter the size of array

5

Enter elements of array

1

2

3

9

8

Enter which element do u want to insert

7

Where you want to insert

0

After insertion

7

1

2

3

9

8

printf("After insertion\n");

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

{

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

}

getch();

}

**//MARTRIX MULTIPLICATION**

#include<stdio.h>

#include<conio.h>

void main()

{

int a[20][20],b[20][20],c[20][20],i,j,m,n,p,q,k;

clrscr();

printf("Enter the order of first matrix\n");

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

printf("Enter the order of second matrix\n");

scanf("%d%d",&p,&q);

if(n==p)

{

printf("Enter first matrix elements\n");

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

{

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

{

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

}

}

printf("Enter second matrix elements\n");

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

{

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

{

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

}

}

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

{

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

{

c[i][j]=0;

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

{

c[i][j]=c[i][j]+a[i][k]\*b[k][j];

}

}

}

printf("First matrix is:\n");

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

{

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

{

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

}

printf("\n");

}

printf("Second matrix is:\n");

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

{

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

{

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

}

printf("\n");

}

printf("Resultant matrix is:\n");

/\*OUTPUT-1

Enter the order of second matrix

4 2

Enter first matrix elements

2 1 4 3

5 2 7 1

3 1 4 2

Enter second matrix elements

1 2

3 4

2 5

6 2

First matrix is:

2 1 4 3

5 2 7 1

3 1 4 2

Second matrix is:

1 2

3 4

2 5

6 2

Resultant matrix is:

31 34

31 55

26 34

2)Enter the order of first matrix

2

3

Enter the order of second matrix

2

3

Multiplication is not possible

Multiplication is not possible \*/

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

{

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

{

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

}

printf("\n");

}

}

else

{

printf("Multiplication is not possible\n");

}

getch();

}

**//PROGRAM TO GENERATE PASCAL TRIANGLE**

#include<stdio.h>

#include<conio.h>

void main()

{

/\*OUTPUT

Enter n value

5

Pascal triangle is

1

11

121

1331

14641

int a[10][10],i,j,n;

clrscr();

printf("Enter n value\n");

scanf("%d",&n);

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

{

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

{

if(j==0 || i==j)

a[i][j]=1;

else

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

}

}

printf("Pascal triangle is\n");

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

{

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

{

printf("%4d",a[i][j]);

}

printf("\n");

}

getch();

}