**ASSIGNMENT 2**

1. Write a program to check whether a number is prime or not.

// CPP program to check a number is prime or not

#include <iostream>

using namespace std;

int main() {

int i=2,n,flag=0;

cout<<"Enter the number : "<<endl;

cin>>n;

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

{

if(n%i==0)

{

flag=1;

break;

}

}

if (flag==0)

{

cout<<"Given number is a prime"<<endl;

}

else

{

cout<<"not prime";

} return 0;

}

Output:

Enter the number :

21

not prime

Enter the number :

13

Given number is a prime

Enter the number :

2

Given number is a prime

1. Write a program to generate first N prime numbers. Accept N from user.

#include <iostream>

using namespace std;

// Function to check if a number is prime

bool isPrime(int num) {

if (num < 2) return false;

for (int i = 2; i \* i <= num; i++) {

if (num % i == 0) return false;

}

return true;

}

// Function to generate first N prime numbers

void generatePrimes(int N) {

int count = 0;

int num = 2;

while (count < N) {

if (isPrime(num)) {

cout << num << " ";

count++;

}

num++;

}

cout << endl;

}

int main() {

int N;

cout << "Enter the value of N: ";

cin >> N;

cout << "First " << N << " prime numbers are: " << endl;

generatePrimes(N);

return 0;

}

1. Write a program to generate following pyramid

A

AB

ABC

A..............Z

// CPP program to generate a pyramid

#include <iostream>

using namespace std;

int main() {

for(char row='A';row<='Z';row++)

{

for(char col='A';col<=row; col++)

{

cout<<col;

}

cout<<endl;

}

return 0;

}

Output:

A

AB

ABC

ABCD

ABCDE

ABCDEF

ABCDEFG

ABCDEFGH

ABCDEFGHI

ABCDEFGHIJ

ABCDEFGHIJK

ABCDEFGHIJKL

ABCDEFGHIJKLM

ABCDEFGHIJKLMN

ABCDEFGHIJKLMNO

ABCDEFGHIJKLMNOP

ABCDEFGHIJKLMNOPQ

ABCDEFGHIJKLMNOPQR

ABCDEFGHIJKLMNOPQRS

ABCDEFGHIJKLMNOPQRST

ABCDEFGHIJKLMNOPQRSTU

ABCDEFGHIJKLMNOPQRSTUV

ABCDEFGHIJKLMNOPQRSTUVW

ABCDEFGHIJKLMNOPQRSTUVWX

ABCDEFGHIJKLMNOPQRSTUVWXY

ABCDEFGHIJKLMNOPQRSTUVWXYZ

1. Write a menu driven program to perform mathematical operations on two numbers.

1. Add

2. Sub

3. Mul

4. Div

5. Exit

accept the menu option and numbers form user.

/\* a menu driven program to perform mathematical operations on two numbers. \*/

#include <iostream>

using namespace std;

int main()

{

int i,a,b;

cout<<"select the mathematical operation to be performed :"<<endl;

cout<<"1.Add"<<endl<<"2.Subtract"<<endl;

cout<<"3.Multiply"<<endl<<"4.Divide"<<endl;

cout<<"5.exit"<<endl;

cin>>i;

switch(i)

{

case 1:

cout<<"Enter the numbers for addition :"<<endl;

cin>>a>>b;

cout<<a+b;

break;

case 2:

cout<<"Enter the numbers for subtraction :"<<endl;

cin>>a>>b;

cout<<a-b;

break;

case 3:

cout<<"Enter the numbers for multiplication :"<<endl;

cin>>a>>b;

cout<<a\*b;

break;

case 4:

cout<<"Enter the numbers for division :"<<endl;

cin>>a>>b;

cout<<a/b;

break;

case 5:

cout<<"Exiting.."<<endl;

break;

default:

cout<<"Select appropriate option"<<endl;

break;

}

return 0;

}

Output:

select the mathematical operation to be performed :

1.Add

2.Subtract

3.Multiply

4.Divide

5.exit

1

Enter the numbers for addition :

21 22

43

select the mathematical operation to be performed :

1.Add

2.Subtract

3.Multiply

4.Divide

5.exit

2

Enter the numbers for subtraction :

3 10

-7

select the mathematical operation to be performed :

1.Add

2.Subtract

3.Multiply

4.Divide

5.exit

3

Enter the numbers for multiplication :

2 9

18

select the mathematical operation to be performed :

1.Add

2.Subtract

3.Multiply

4.Divide

5.exit

4

Enter the numbers for division :

15 3

5

select the mathematical operation to be performed :

1.Add

2.Subtract

3.Multiply

4.Divide

5.exit

5

Exiting..

1. Generate following pyramid , accept the level from the user as input

// pyramid of numbers

#include <iostream>

using namespace std;

int main()

{

int n,row,col;

cout<<"enter the level : ";

cin>>n;

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

{

for(col=1;col<=row;col++)

{

cout<<col;

}

cout<<endl;

}

return 0;

}

Output:

enter the level : 5

1

12

123

1234

12345

enter the level : 3

1

12

123

enter the level : 8

1

12

123

1234

12345

123456

1234567

12345678