

C++
ASSIGNMENT-2
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```
#include <iostream>
using namespace std;

void primeOrNot(int a);

void primeNumbers(int a);

void alphaPyramid(int a);

void addition();

void subtraction();

void multiplication();

void division();

void numPyramid(int a);

int main(){
```

```
int n;
```

```
cout<<"Enter a number"<<endl;
```

```
cin>>n;
```

```
primeOrNot(n);           // Q1
```

```
cout<<endl;
```

```
primeNumbers(n);        //Q2
```

```
cout<<endl;
```

```
alphaPyramid(n);        //Q3
```

```
cout<<endl;
```

```
numPyramid(n);          //Q5
```

```
cout<<endl;
```

```
int choice;
```

```
do{                       //Q4
```

```
cout<<" Select menu-> "<<endl;
```

```
cout<<" 1.Addition 2.Substraction 3.Multiplication 4.Division 5.Exit"<<endl;
```

```
cout<<" Enter your choice: "<<endl;
```

```
cin>>choice;
```

```
switch (choice)
```

```
{
```

```
case 1: addition();
```

```
    break;
```

```
case 2: subtraction();
```

```
    break;
```

```
case 3: multiplication();
```

```
    break;
```

```
case 4: division();
```

```
    break;
```

```
case 5: cout<<" Good Bye!!! "<<endl;
```

```
    break;
```

```
default: cout<<" Invalid choice...Please choose a valid option"<<endl;
```

```
    break;
```

```
}
```

```
}while (choice!=5);
```

```
    return 0;  
}
```

```
void primeOrNot(int n){
```

```
    int i,count=0;
```

```
    for(i=1;i<=n;i++){  
        if(n%i==0)  
            count++;  
    }
```

```
    if(count==2)
```

```
        cout<< n << " is a prime number"<<endl;
```

```
    else
```

```
        cout<< n << " is not a prime number"<<endl;
```

```
}
```

```
void primeNumbers(int n){
```

```
    int i, x=2;
```

```
    cout<<"prime numbers upto "<<n<<endl;
```

```
    while(n){
```

```

for( i=2;i<x;i++)
if(x%i==0)
break;

if(i==x){

cout<< x << " ";

n--;

}

x++;

}

}

void alphaPyramid(int n){

char c='A';

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

c='A';

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

// cout<< j << " ";

cout<< c << " ";

c++;

}

cout<<endl;

}

```

```
}
```

```
void addition(){
```

```
int n1,n2;
```

```
cout<<" Enter a first number"<<endl;
```

```
cin>>n1;
```

```
cout<<" Enter a second number"<<endl;
```

```
cin>>n2;
```

```
int res = n1+n2;
```

```
cout<<"Addtion of "<<n1<<" and "<<n2<<" is "<<res<<endl;
```

```
}
```

```
void substraction(){
```

```
int n1,n2;
```

```
cout<<" Enter a first number"<<endl;
```

```
cin>>n1;
```

```
cout<<" Enter a second number"<<endl;
```

```
cin>>n2;
```

```
int res = n1-n2;
```

```
cout<<"Substraction of "<<n1<<" and "<<n2<<" is "<<res<<endl;
```

```
}
```

```
void multiplication(){
```

```
int n1,n2;
```

```
cout<<" Enter a first number"<<endl;
```

```
cin>>n1;
```

```
cout<<" Enter a second number"<<endl;
```

```
cin>>n2;
```

```
int res = n1*n2;
```

```
cout<<"Multiplication of "<<n1<<" and "<<n2<<" is "<<res<<endl;
```

```
}
```

```
void division(){
```

```
int n1,n2;
```

```
cout<<" Enter a first number"<<endl;
```

```
cin>>n1;
```

```
cout<<" Enter a second number"<<endl;
```

```
cin>>n2;
```

```
int res = n1/n2;
```

```
cout<<"Division of "<<n1<<" and "<<n2<<" is "<<res<<endl;
```

```
}
```

```
void numPyramid(int n){
```

```
    for(int i=1;i<=n;i++){
```

```
        for(int j=1;j<=i;j++){
```

```
            cout<<j<<" ";
```

```
        }
```

```
        cout<<endl;
```

```
    }
```

```
}
```