Assignment 2

Question 1)


```cpp
#include<iostream>
#include<cmath>
using namespace std;
int main()
{
    int n ;
    cout<<"Enter the number :";
    cin>>n;
    bool isprime(n);
}

bool isprime(int n) {
    if (n <= 1) {
        return false;
    }
    if (n == 2)
    {
        return true;
    }
    if (n % 2 == 0)
    {
        return false;
    }
    for (int i = 3; i <= sqrt(n); i += 2)
    {
        if (n % i == 0)
        {
            return false;
        }
    }
    return true;
}
```

Question 2)

```cpp
#include <iostream>
#include <cmath>

using namespace std;

bool checkPrime(int);
void generatePrime(int);

int main()
{
    int n1;
    cout <<"enter the number :" ;
    cin >> n1;

    generatePrime(n1);
}

void generatePrime(int n1)
{
```

```cpp
    if(n1<2)
    {
        cout<<"There are no prime numbers less than 2"<<endl;
    }
    for(int i=2;i<=n1;i++)
    {
        if(checkPrime(i))
        {
            cout<<i<<endl;
        }
    }
    cout<<endl;

}

bool checkPrime(int n) {
    if (n <= 1) {
        return false;
    }
    if (n == 2) { // 2 is a prime number
        return true;
    }
    if (n % 2 == 0) { // Even number greater than 2 is not prime
        return false;
    }
    // Check odd number1s from 3 up to sqrt(n)
    for (int i = 3; i <= sqrt(n); i += 2) {
        if (n % i == 0) {
            return false;
        }
    }
    return true;
}
```


Question 3)


```cpp
#include <iostream>
using namespace std;

int main()
{
    int n;
    cout<<"enter a number : " ;
    cin>>n;
    for(int i=0;i<26;i++)
    {
        char ch = 'A';
        for(int j=0;j<i;j++)
          {
              cout<<ch++;
          }
        cout<<endl;
    }
    return 0;

}
```

```
----------
```

Question 4)

```cpp
#include <iostream>
using namespace std;

int main()
{
    int a,b,n;
    cout<<"Eenter the number 1 -";
    cin>>a;
    cout<<"enter the number 2  -";
    cin>>b;
    while(true){
        cout<<"Enter the operation Number to perform :"<<endl;
        cout<<"1. addition"<<endl;
        cout<<"2. subtraction"<<endl;
        cout<<"3. multiplication"<<endl;
        cout<<"4. division"<<endl;
        cout<<"5. exit program"<<endl;

        cout<<"enter number:";
        cin>>n;

        if(n==5)
      {
            cout<<"exiting program"<<endl;
            break;
        }

        switch(n)
        {
            case  1:
                cout<<"result: "<< " "<<a+b<<endl;
                break;
            case 2:
                cout<<"result: "<< " "<<a-b<<endl;
                break;
            case 3:
                cout<<"result: "<< " "<<a*b<<endl;
                break;
            case 4:
                cout<<"result: "<< " "<<a/b<<endl;
                break;
            default:
                cout<<" entered wrong choice"<<endl;
                break;
        }
        cout<<endl;
}

-------------------------------------------------------------------------------
-
```

Question 5)

```cpp
#include <iostream>
using namespace std;
```

```
int main()
{
    int num ;
    cout<<"Enter the number:";
    cin>>num;
    for(int i=1;i<=num;i++)
    {
        int x = 1;
        for(int j=1;j<=i;j++)
          {
                cout<<x++<<endl;
          }
     cout<<endl;
    }
}
```