Question 1)

```cpp
#include <iostream>
using namespace std;
int main() {
        int num = 8;
        bool is_prime = true;
        if (num == 0 || num == 1) { is_prime = false; }
        for (int i = 2; i < num / 2; i++) {
                if (num % 2 == 0) {
                        is_prime = false;

                }
        }

        if (is_prime)
                        cout << num << "number is prime " <<"\n";
        else
                        cout << num <<"number is not prime "<<"\n";

        return 0;

}
```
——
OUTPUT
8number is not prime

——
Question 2)
```cpp
#include <iostream>
using namespace std;


bool isPrime(int num) {
   if (num <= 1) {
      return false;
   }
   for (int i = 2; i * i <= num; i++) {
      if (num % i == 0) {
         return false;
      }
   }
```

```cpp
        return true;
}

int main() {
    int n;


    cout << "Enter the number of prime numbers you want to generate: ";
    cin >> n;

    int count = 0;
    int num = 2;

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


    while (count < n) {
        if (isPrime(num)) {
            cout << num << " ";
            count++;
        }
        num++;
    }

    cout << endl;

    return 0;
}
```

———

OUTPUT

Enter the number of prime numbers you want to generate: 19
First 19 prime numbers are:
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67

———

QUESTION 3

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

int main() {
```

```cpp
    int n=5;
    for(int i = 1 ; i < n ; i++){

        char ch = 'A';
         for(int j=1  ; j<= i ;j++){
            cout<<ch<< " " ;
            ch++;
      }
      cout<<endl;
   }

   return 0;
}
```
—--

OUTPUT

```
A
A B
A B C
A B C D
```
—--

Question 4)

```cpp
#include <iostream>
using namespace std;
int main(){
        int num1, num2;
        cout << "Enter the value of num1 : ";
        cin >> num1;
        cout << "Enter the value of num2 : " ;
        cin >> num2;

        int sum = num1 + num2;
        cout << " SUM : " << sum << "\n";

        int sub = num1 - num2;
        cout <<" Sub : " << sub << "\n";

        int mul = num1 * num2;
        cout << " Mul : "<<mul<<"\n";
```

```cpp
        float div = num1 / num2;
        cout << " div : " << div <<"\n";

        if (div == 0) {
                cout << "Error";
                exit(0);
        }
        return 0;

}
```

——

Enter the value of num1 : 50
Enter the value of num2 : 2
 SUM : 52
 Sub : 48
 Mul : 100
 div : 25

——

Question 5)

```cpp
#include <iostream>
using namespace std;
int main() {
        for (int i = 1; i < 4; i++) {
                for (int j = 1; j <= i; j++) {

                        cout <<j<<" ";
                }
                cout <<endl;
        }
        return 0;
}
```

——

Answer

1
1 2
1 2 3

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