```cpp
#include <iostream>

using namespace std;
```
(is common in all)

number 1

```cpp
int main(){

        int x1,y1,x2,y2;
         int distance;


        cout<< "enter first x1\n";

        cin>> x1;

        cout<< "enter x2\n";

        cin >>x2;

        cout<< "enter y1\n";

        cin >> y1;

        cout<< "enter y2\n";

        cin >> y2;


        distance = (y2-y1)*(y2-y1)+(x2-x1)*(x2-x1) ;

        cout<< "distance between these points is " << distance << endl;


        return 0;

}
```

Number 2

```cpp
int main(){

        double x1;
         double length;
         double length2;

        cout<< "enter  x1\n";
        cin>> x1;

        length=x1/100;
        length2=x1/100000;
        cout<< "length in metres is " << length << endl;
        cout<< "length in kilometres is" << length2 << endl;

        return 0;
}
```

Number 3

```cpp
int main(){

        int a;
        int b;
        int polynomial;

        cout<< "enter  a\n";
```

```
        cin>> a;

        cout<< "enter b\n";

        cin >>b;


        polynomial=a*a+2*a*b+b*b;

        cout<< "polynomial  is " << polynomial << endl;


        return 0;
}
```

Number 4

```
//int main(){

        double farenhite, celcius ;

        //input temperature in celcius

        cout<< "enter temperature in celcius" ;

        cin >>celcius;

        //convert cerlcius to farenhite

        farenhite = (celcius*9/5)+32;

        cout << "temperature in farenhite is  " << farenhite << endl;


        return 0 ;
}
```

Number 5

```
int main (){

        int age;
```

```cpp
        cout<< "enter your age" ;

        cin>> age ;

        if (age>=18){

                cout<< "you are elegible to vote" ;

        }

        else {

                cout << "you are not elegible to vote" ;

        }

        return 0;

}
```

Number 6

```cpp
int main (){

        int integer ;

        cout << "enter the integer" ;

        cin >> integer ;

        if (integer >=10 && integer <=50 ){

                cout << "the number falls within the given range" ;

        }else {

                cout<< "the number does not fall witin the given range ";

        }

        return 0;


}
```

Number 7

```cpp
int main (){
```

```cpp
    int num1,num2 ;

    cout<< "enter the first number" ;

    cin>> num1;

    cout << "enter the 2nd number " ;

    cin>> num2;

    int max ;

    if (num1>num2){

      max=num1;

    } else{

      max=num2 ;

    }

     cout<< " the maximum value is" << max << endl;

    return 0;

}
```

Number 8

```cpp
 int main(){

        int score1,score2,score3,averagescore ;

         cout << "enter the first exam score ";

         cin >> score1 ;

         cout << "enter the 2nd exam score" ;

         cin>> score2 ;

         cout<< " enter the 3rd exam score" ;

         cin >> score3 ;

          averagescore = (score1 +score2 + score3) / 3 ;
```

```cpp
        cout<< "hence the average score is" << averagescore << endl ;

         if(averagescore>=60){

                cout<<"the score is above passing grade";

                } else{

                        cout << "the score is below passing grade  ";

                }



 }
```

Number 9

```cpp
int main(){

        int score ;

        cout << "enter the students score " ;

        cin>> score ;



        if(score>90){

        cout<<"the grade is A";

        }

        if(score>=75 &&score<90){

                cout<<"the grade is B";

        }

        if(score>=60 && score<75){

                cout<< "the grade is c";

        }

        if(score>=45 && score<60){

                cout<< "the grade is D";
```

```cpp
        }

        if(score>0 && score<45){

                cout<< "the grade is F";

        }

        return 0;


}
```

Number 10

```cpp
int main(){

        int integer ;

        cout<< "enter the integer";

        cin >> integer ;

        if (integer/2 && integer/5){

                cout<< "the integer is even and divisible by 5";

        } else{

                cout<< "the integer is not even and divisible by 5";

        }

        return 0;

}
```

Number 11

```cpp
 int main(){

        int attendance ;

        float gpa ;

        cout<< "enter the students gpa" ;

        cin>> gpa ;
```

```cpp
        cout<< "enter the students attendance percentage" ;

        cin >> attendance ;

        if (gpa>=3.5 && attendance >=80){

         cout<< "the student is eleigible for scholarship" ;

} else{

        cout<< "the student is not elegible for scholarship" ;

}

         return 0 ;

}
```

Number 12

```cpp
int main (){

        char alphabet,a,e,i,o,u ;

        cout<< "enter the alphabet";

        cin >> alphabet ;

        if(alphabet==a || alphabet==e || alphabet==i  || alphabet==o || alphabet==u){

                cout<<"the alphabet is vowel";

        } else {

                cout << " the alphabet is consonant";

        }

        return 0 ;

}
```

Number 13

```cpp
 int main(){

        int year ;

        cout << "enter the year";
```

```cpp
    cin>> year ;

    if ((year%4==0 && year% 100 != 0) || (year %400==0)){

            cout<< "it is a leap year";

    } else {

            cout<< "it is not a leap year";

    }

    return 0;

}
```