Q1) ask user to enter two value of variables integer and passing it to function and swap variable by pointer.

```
#include <iostream>
using namespace std;
void swapx(int* x, int* y) {
	int z = *x;
	*x = *y;
	*y = z;
}
#include <iostream>
using namespace std;
int main() {
	int x, y;
	cin >> x >> y;
	swapx(&x, &y);
	cout << x << endl << y;
	return 0;
}
```

Q2) create an one dimensional array of 10 , ask user to enter them and passing array to function to count how many element of array contain 0.

```
#include <iostream>
using namespace std;
int conarr(int arr[10]) {
	int count = 0, n, mod;
	for (int i = 0; i < 10; i++) {
		n = arr[i];
		if (n == 0) {
			count++;
		}
		else {
			while (n > 0)
			{
				mod = n % 10;
				if (mod == 0) {
					count++;
					break;
				}
				else {
					n /= 10;
				}
			}
		}
	}
	return count;
}
int main() {
	int arr[10];
	for (int i = 0; i < 10; i++) {
		cin >> arr[i];
	}
	cout << conarr(arr);
	return 0;
}
```

Q3) create an empty class named triangle and another class named shape , in main write a program to create an object of shape but when you create that object , your program should create an object from triangle.

```cpp
#include <iostream>
using namespace std;
class traingle {
public:

};
class shape {
    traingle t1;
};
int main() {
    shape s1;
    return 0;
}
```

Q4) create a class named STUDENT that have three private data field name , grade , phone . class have read only functions to each data field , user can enter name and phone only OR name , grade and phone , in two cases pass value to class and return it to main and print this values.

```cpp
#include <iostream>
using namespace std;
class student {
private:
	string name;
	double grade;
	int phone;
public:
	student(string n, int ph, double g = 0.0) {
		name = n;
		grade = g;
		phone = ph;
	}
	string getname() {
		return name;
	}
	int getphone() {
		return phone;
	}
	double getgrade() {
		return grade;
	}
};
int main() {
	string n, check;
	int ph;
	double g;
	cin >> n >> ph;
	cout << "Do you want to enter grade? (yes/no): ";
	cin >> check;
	if (check == "yes") {
		cin >> g;
		student s1(n, ph, g);
		cout << "Name: " << s1.getname() << endl;
		cout << "Phone: " << s1.getphone() << endl;
		cout << "Grade: " << s1.getgrade();
	}
	else if (check == "no") {
		student s1(n, ph);
		cout << "Name: " << s1.getname() << endl;
		cout << "Phone: " << s1.getphone() << endl;
		cout << "Grade: " << s1.getgrade();
	}
```