## Lab\_3. Copy constructor

- 1. Create a class A that contains a char pointer to the text line. A parameterized constructor takes a text line from the formal argument list, determines how many elements the array contains, dynamically allocates memory, and copies the text line taken from the constructor's argument list to a class member. The default constructor initializes the text line pointer to NULL. Destructor releases the memory, dynamically allocated in parameterized constructor. The class includes a *disp*() method to display the text line on the monitor. Each of the constructors outputs to the monitor one of the messages "default constructor", "parameterized constructor" and "copy constructor", destructor - "destructor".
- 2. Create a function *fun* that takes an object of type A and outputs its text line to the monitor. Overload *fun* functions so that the function takes a pointer to an object of type A. Count calls to constructors and destructors.
- 3. Carry out:

```
int main()
{
   A ob("aaaaa");
   fun(ob);
   fun(&ob);
   A bbb;
   fun(bbb);
   system("pause");
   return 0;
}
```

Count how many times the constructor, copy constructor, and destructor will be called and explain it.

4. Create a function named fun that returns an object of type A. The function has an empty argument list. An object of type A is declared in the function as a local object. Please, run the following code:

```
int main()
{
   //A ob("aaaaa");
   //fun(ob);
   //fun(&ob);
   //A bbb;
   //fun(bbb);
   A cc = fun();
   system("pause");
   return;
}
```

Please, count how many times the constructors and the destructor are called.