This document presents information about tasks solved at laboratories.

Object oriented programming classes 1

Topic : Differences between C/C++, object paradigms, objects, encapsulation.

1. Programs in C/C++

Create new file with extension *.c* and write a program which print *'Hello world'* on screen. Compile it with *gcc* and $g++$ compiler.

2. Differences between C and C++

Short introduction about both programming languages using a file *stos.cpp* as an example (stos is a polish word meaning the same as pile in english).

3. Object paradigm

1. Compile and run the file stos.cpp.
2. Can we access all methods and variables in structure Stos ?
3. Change the structure into a class. Correct compilation errors.

4. Data class handling - encapsulation

1. Divide Class members into private (variables: n, dane) and public (methods: push, pop, empty) and run the program.
2. Add a method, which return present number of elements in the pile (method should be named: getLiczbaElementow()).

5. Initialize and finalize objects

1. Define no-arg constructor (constructor which takes no arguments), which would assign 0 to the attribute *n*, which store information about present number of elements in the pile, and after that it would print sign "Mostrar-se!" on screen.
2. Define destructor, which would print on screen sign "Desaparecer!".
3. Make changes to the program, which let us observe when the constructor() and desctructor() are invoked.

6. Do it yourself

1. Define class Data. Attributes of this class should store information about day, month, year.
   Data should have following methods:
   — set(int d, int m, int r) - setting values of the day, month and year;
   — print() - printing data on screen;
   — no-arg constructor - which sets current date (find a proper function on the web);
   — constructor with arguments - which set to data values passed in arguments;
2. Class Data should not have any other methods than those mention above. Attributes day, month and year should be private.
3. Create an exemplary program exploiting class Data.