**Discipline** - SoftwareEngineeringMethods.

Laboratory №5 -7

**STRUCTURAL DESIGN METHOD**

Tool design: MicrosoftVisio or Yed Editor

Contents

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6. **Task**

Static unlinked linear list to design on based array. The project must fulfill the following functions- insert of element on the list;

delete of element from the list;

search of element in a static list;

search of position of element in a static list;

print list.

Decompose modules to unary functions.

Create flowcharts in Microsoft Visio 2013;

Write program code in Microsoft Visual C++ 2013;

Test unary function.

Test program for unique moments

**2. Requirements analysis:**

Type of Input must be an integer.

limit the size of an array of 100 elements.

The array to be dynamic;

- An array of one-dimensional;

- The size of the array is the keypad

1. **Design of diagrams.**

**Design** - The structural method – decomposition - is applied to the solution of the problem. To decompose the task at the top level (modules) and the lowest level (function). Process data for exception cases.

**First level design by top-down**



**Diagrams of the lower-level design**







1. **Testing task**

**Assembling task from the bottom up**

Blocks Input \ Output testing on correct input /output data



**We use stub of unused functions for the correct software code debugging and testing.**

Block (Deleete) are testing for correctness remove an item from list - need to remove an item that is located after the specified index



**Testing all nask**



**Conclution**

While creating program, we learned:

-how to create list in C++ language;

-how to work with list;

-how to work with usual list functions;

-how to create and use switch function.