MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE NATIONAL TECHNICAL UNIVERSITY

“KHARKIV POLYTECHNIC INSTITUTE”

DEPARTMENT OF SOFTWARE ENGINEERING AND MANAGEMENT INFORMATION TECHNOLOGIES

Report of laboratory work № 2

*Coding of Domain*

Discipline « **SOFTWARE ENGINEERING**»

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**Goal:**

Learning basic principles of C++

**Task**:

* Develop the code for the task from previous lab;
* Prepare the report of the work;

**Variant 7:**

* **Develop the code for the task from previous lab:**

1. #include <iostream>
2. using namespace std;
3. int main(){
4. int x, n;
5. double y;
6. //Input x
7. cout << "Enter x = ";
8. cin >> x;
9. if(x > 0){
10. //Input n
11. cout << "Enter n: (n >= 1)  n = ";
12. cin >> n;
13. y = 1;
14. if(n >= 1){
16. for (double i = 1.0; i <= n; i++)
17. {
18. y \*= ((1.0/x) - (1.0/i));
19. }
20. //Output result
21. cout << "Result: y = " << y << endl;
22. }else{
23. cout << "'n' must be more or equal than 1 "<<endl;
24. cout << "You've inputted: " << n << endl;
25. }
26. }else{
27. //Input n
28. cout << "Enter n: (n >= 0)  n = ";
29. cin >> n;
30. y = 0;
31. if(n >= 0){
32. double tmp;
33. for (double i = 0; i <= n - 1; i++)
34. {
35. tmp = 0;
36. for (double j = 0; j <= n - 1; j++)
37. {
38. tmp += 1.0/(x - i +j);
39. }
40. y += tmp;
41. }
42. //Output result
43. cout << "Result: y = " << y << endl;
44. }else{
45. cout << "'n' must be more or equal than 0 "<<endl;
46. cout << "You've inputted: " << n << endl;
47. }
48. }
49. return 0;
50. }

**Link to GitHub:**

**Conclusion**

During this laboratory work I have learned important basics of C++ language.

* **Variables.**
* **Input/Output.**
* **Operations.**
* **If statement.**
* **Loops.**