УО «Белорусский государственный университет информатики и радиоэлектроники»

Кафедра ПОИТ

Отчет по лабораторной работе №1.4

по предмету

Основы алгоритмизации и программирования

Вариант 3

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Группа 351005

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Задание:

Вычислить А1 + А3 + А5 + ... + А2N-1

Код программы на **Delphi**:

Program Lab4;

Uses

System.SysUtils;

Var

Arr: Array Of Double;

NumberInMassive, I: integer;

SumNumb: Double;

IsCorrect: Boolean;

Begin

NumberInMassive := 0;

SumNumb := 0;

IsCorrect := true;

Writeln(' The program calculates the sum of all odd elements entered by the

user.', #10,

'\*Please note that the numbering of the entered numbers starts from

zero.\*', #10, #10,

'Restrictions: The number of all elements is an integer;', #10,

' Numbers can be any: both integers and reals.', #10);

REPEAT

Try

Writeln('How many numbers will you write?');

Readln(NumberInMassive);

IsCorrect := True;

Except

IsCorrect := False;

Writeln('Number entered incorrectly.');

End;

UNTIL IsCorrect;

SetLength(Arr, NumberInMassive);

REPEAT

TRY

For I := 0 To NumberInMassive - 1 Do

Begin

Writeln('Write your ', I + 1, ' number.');

Read(Arr[i]);

IsCorrect := true;

End;

except

IsCorrect := false;

Writeln('Number entered incorrectly.');

END;

UNTIL IsCorrect;

For I := 1 To NumberInMassive – 1 Do

Begin

If I Mod 2 <> 0 Then

Begin

SumNumb := SumNumb + Arr[I];

End;

End;

SetLength(Arr, 0);

Writeln('Sum of all odd numbers - ', SumNumb:3:3);

Readln;

Readln;

End.

Код программы на **C++**:

#include <iostream>

#include <Windows.h>

int main()

{

SetConsoleCP(1251);

SetConsoleOutputCP(1251);

int numberInMassive = 0;

double sumNumb = 0;

bool isCorrect = false;

printf(" The program calculates the sum of all odd elements entered by the

user.\n"

"\*Please note that the numbering of the entered numbers starts from

zero.\*\n\n"

"Restrictions: The number of all elements is an integer;\n"

" Numbers can be any : both integers and reals.\n\n");

do

{

isCorrect = true;

printf("How many numbers will you write?\n");

std::cin >> numberInMassive;

if (std::cin.get() != '\n')

{

isCorrect = false;

std::cin.clear();

std::cin.ignore(30000, '\n');

printf("Number entered incorrectly.\n");

}

} while (!isCorrect);

double\* arr = new double[numberInMassive];

isCorrect = false;

bool IsCorrectCin = true;

do

{

isCorrect = true;

IsCorrectCin = true;

for (int i = 0; i < numberInMassive; i++)

{

if (IsCorrectCin)

{

printf("Write your %d number.\n", i + 1);

std::cin >> arr[i];

if (std::cin.get() != '\n')

{

std::cin.clear();

std::cin.ignore(35000, '\n');

isCorrect = false;

printf("Number entered incorrectly.\n");

IsCorrectCin = false;

}

}

}

} while (!isCorrect);

for (int i = 1; i < numberInMassive; i = i + 2) {

sumNumb = sumNumb + arr[i];

}

delete[] arr;

arr = nullptr;

printf("\nSum of all odd numbers - %.3f", sumNumb);

return 0;

}

Код программы на **Java**:

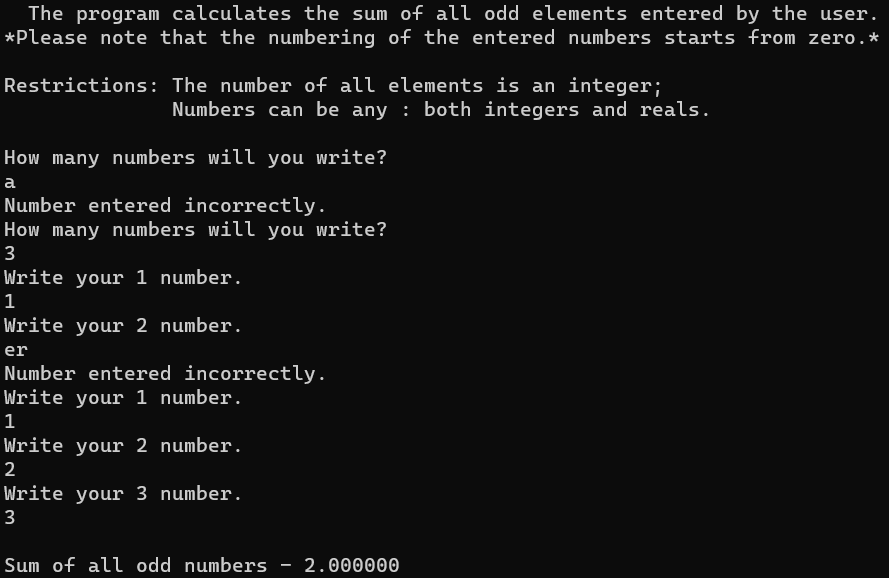
import java.text.DecimalFormat;  
import java.util.Scanner;  
  
public class lab\_4 {  
 public static void main(String[] args) {  
 DecimalFormat dF = new DecimalFormat( "0.###" );  
 Scanner in = new Scanner(System.*in*);  
  
 int numberInMassive = 0;  
 double sumNumb = 0;  
 boolean isCorrect = true;  
  
 System.*out*.print("""  
 The program calculates the sum of all odd elements

entered by the user.  
 \*Please note that the numbering of the entered numbers

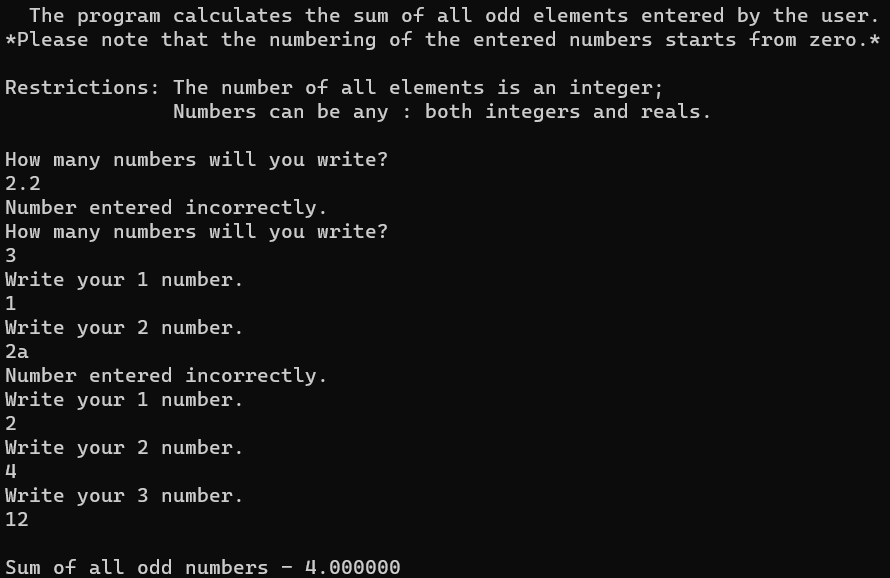
starts from zero.\*  
   
 Restrictions: The number of all elements is an integer;  
 Numbers can be any: both integers and

reals.  
   
 """);  
  
 do {  
 try {  
 System.*out*.println("How many numbers will you write?");  
 numberInMassive = Integer.*parseInt*(in.nextLine());  
 isCorrect = false;  
 } catch (Exception error) {  
 System.*out*.print("Number entered incorrectly.\n");  
 }  
 } while (isCorrect);  
  
 double[] arr = new double[numberInMassive];  
  
 isCorrect = true;  
 do  
 {  
 try  
 {  
 for (int i = 0; i < numberInMassive; i++) {  
 System.*out*.printf("Write your %d number.\n", i + 1);  
 double buffer = Double.*parseDouble*(in.nextLine());  
 arr[i] = buffer;  
 }  
 isCorrect = false;  
 } catch (Exception error) {  
 if (error.getMessage() != null)  
 System.*out*.print("Number entered incorrectly.\n");  
 }  
 } while(isCorrect);  
  
 in.close();  
  
 for (int i = 1; i < numberInMassive; i = i + 2) {  
 sumNumb = sumNumb + arr[i];  
 }  
 System.*out*.printf("Sum of all odd numbers - %.3f", sumNumb);  
 }  
}

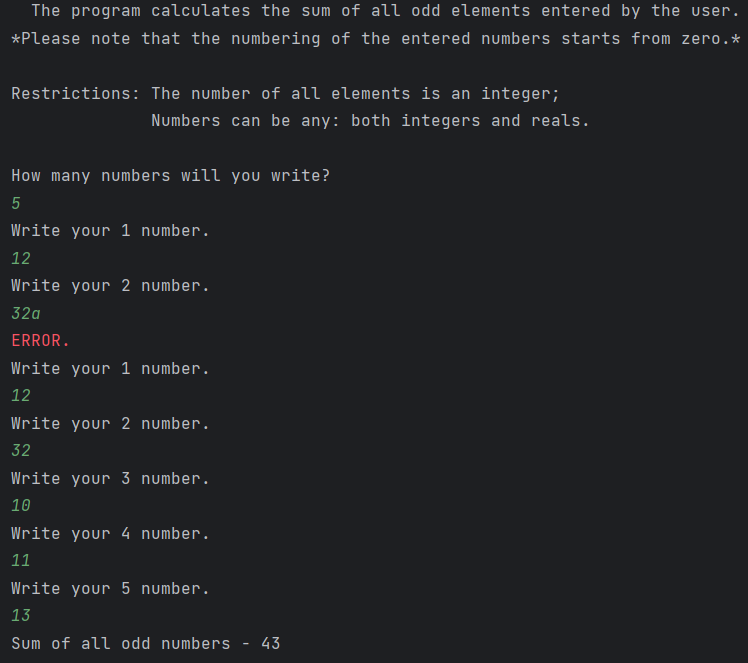
Результат на **Delphi**:



Результат на **C++**:



Результат на **Java**:



Блок-схема:

