**DATA STRUCTURES AND ALGORITHMS**

**PRACTICAL WORK 2: Individual Tasks**

Please select the task and write a program in C++. Copy the text of the program in Word format file and upload it into the Moodle. During presentation of results explain the text of the Program and show the work of the program.

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|  | [**Fahima Abdul Kader**](https://emokymai.vu.lt/user/view.php?id=20100&course=10579) | **1.** Write a program in C++ to find the first 10 natural numbers. Sample output: The natural numbers are: 1 2 3 4 5 6 7 8 9 10 |
|  | [**Mahammadali Abiyev**](https://emokymai.vu.lt/user/view.php?id=20120&course=10579) | **2.** Write a program in C++ to find the sum of the first 10 natural numbers. Sample Output: Find the first 10 natural numbers: --------------------------------------- The natural numbers are: 1 2 3 4 5 6 7 8 9 10 The sum of first 10 natural numbers: 55 |
|  | [**Siraj Ahmed**](https://emokymai.vu.lt/user/view.php?id=20082&course=10579) | **3.** Write a program in C++ to display n terms of natural numbers and their sum. Sample Output: Input a number of terms: 7 The natural numbers upto 7th terms are: 1 2 3 4 5 6 7 The sum of the natural numbers is: 28 |
|  | [**Israel Oluwadamilare Akindiya**](https://emokymai.vu.lt/user/view.php?id=20132&course=10579) | **4.**Write a program in C++ to find the sum of the digits of a given number. Sample Output: Input a number: 1234 The sum of digits of 1234 is: 10 |
|  | [**Can Aygören**](https://emokymai.vu.lt/user/view.php?id=20119&course=10579) | **5.**Write a program in C++ to calculate the sum of the series (1\*1) + (2\*2) + (3\*3) + (4\*4) + (5\*5) + ... + (n\*n). Sample Output: Input the value for nth term: 5 1\*1 = 1 2\*2 = 4 3\*3 = 9 4\*4 = 16 5\*5 = 25 The sum of the above series is: 55 |
|  | [**Kateryna Balatska**](https://emokymai.vu.lt/user/view.php?id=20136&course=10579) | **6.**Write a program in C++ to calculate the series (1) + (1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+4+...+n). Sample Output: Input the value for nth term: 5 1 = 1 1+2 = 3 1+2+3 = 6 1+2+3+4 = 10 1+2+3+4+5 = 15 The sum of the above series is: 35 |
|  | [**Artur Boiarskyi**](https://emokymai.vu.lt/user/view.php?id=20080&course=10579) | **7.** Write a program in C++ to find the number and sum of all integers between 100 and 200 which are divisible by 9. Sample Output: Numbers between 100 and 200, divisible by 9: 108 117 126 135 144 153 162 171 180 189 198 The sum : 1683 |
|  | [**Batuhan Bulancak**](https://emokymai.vu.lt/user/view.php?id=20081&course=10579) | **8.** Write a program in C++ to display the numbers in reverse order. Sample Output: Input a number: 12345 The number in reverse order is : 54321 |
|  | [**Alex Bulganin**](https://emokymai.vu.lt/user/view.php?id=20127&course=10579) | **9.** Write a program in C++ to display the pattern like right angle triangle with numbers. Sample Output: Input number of rows: 5 1 12 123 1234 12345 |
|  | [**Md. Ashraful Islam Chowdhury**](https://emokymai.vu.lt/user/view.php?id=20133&course=10579) | **10.** Write a C++ program that makes a pattern such as a right angle triangle using numbers that repeat. Sample Output:  Input number of rows: 5  1  22  333  4444  55555 |
|  | [**Bayardorj Dagdandorj**](https://emokymai.vu.lt/user/view.php?id=20122&course=10579) | 11. Write a C++ program to make such a pattern like a right angle triangle with the number increased by 1. Sample Output:  Input number of rows: 4  1  2 3  4 5 6  7 8 9 10 |
|  | [**Alamin Ahmed Emon**](https://emokymai.vu.lt/user/view.php?id=20112&course=10579) | 13. Write a C++ program to make such a pattern, like a pyramid, with a repeating number. Sample Output:  Input number of rows: 5  1  2 2  3 3 3  4 4 4 4  5 5 5 5 5 |
|  | [**Witharanage Prabhash Sulochana Fernando**](https://emokymai.vu.lt/user/view.php?id=20084&course=10579) | 14. Write a C++ program that displays the pattern like a pyramid using asterisks, with odd numbers in each row. Sample Output:    Input number of rows: 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\* |
|  | [**Bishwajith Gajendra Ranganath**](https://emokymai.vu.lt/user/view.php?id=20104&course=10579) | **1.** Write a program in C++ to find the first 10 natural numbers and calculate their sum. Sample output: The natural numbers are: 1 2 3 4 5 6 7 8 9 10 |
|  | [**Laura Garbuzovaitė**](https://emokymai.vu.lt/user/view.php?id=4042&course=10579) | **2.** Write a program in C++ to find the sum of the first 10 natural numbers. Sample Output: Find the first 10 natural numbers: --------------------------------------- The natural numbers are: 1 2 3 4 5 6 7 8 9 10 The sum of first 10 natural numbers: 55 |
|  | [**Ilke Yuksel Gokmen**](https://emokymai.vu.lt/user/view.php?id=20110&course=10579) | **3.** Write a program in C++ to display n terms of natural numbers and their sum. Sample Output: Input a number of terms: 7 The natural numbers upto 7th terms are: 1 2 3 4 5 6 7 The sum of the natural numbers is: 28 |
|  | [**Ali Hamza**](https://emokymai.vu.lt/user/view.php?id=20102&course=10579) | **4.**Write a program in C++ to find the sum of the digits of a given number. Sample Output: Input a number: 1234 The sum of digits of 1234 is: 10 |
|  | [**Nihat Heydarov**](https://emokymai.vu.lt/user/view.php?id=20087&course=10579) | **5.**Write a program in C++ to calculate the sum of the series (1\*1) + (2\*2) + (3\*3) + (4\*4) + (5\*5) + ... + (n\*n). Sample Output: Input the value for nth term: 5 1\*1 = 1 2\*2 = 4 3\*3 = 9 4\*4 = 16 5\*5 = 25 The sum of the above series is: 55 |
|  | [**Maksim Hrybok**](https://emokymai.vu.lt/user/view.php?id=20109&course=10579) | **6.**Write a program in C++ to calculate the series (1) + (1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+4+...+n). Sample Output: Input the value for nth term: 5 1 = 1 1+2 = 3 1+2+3 = 6 1+2+3+4 = 10 1+2+3+4+5 = 15 The sum of the above series is: 35 |
|  | [**Daler Istamov**](https://emokymai.vu.lt/user/view.php?id=20077&course=10579) | **7.** Write a program in C++ to find the number and sum of all integers between 100 and 200 which are divisible by 9. Sample Output: Numbers between 100 and 200, divisible by 9: 108 117 126 135 144 153 162 171 180 189 198 The sum : 1683 |
|  | [**Naim Sarowor Jahan**](https://emokymai.vu.lt/user/view.php?id=20111&course=10579) | **15.** Write a C++ program to display a pattern like a diamond. Sample Output:  Input number of rows (half of the diamond): 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*  \*\*\*  \* |
|  | [**Mohammed Shameem Karuvara Kunnath**](https://emokymai.vu.lt/user/view.php?id=20113&course=10579) | **8.** Write a program in C++ to display the numbers in reverse order. Sample Output: Input a number: 12345 The number in reverse order is : 54321 |
|  | [**Mohamed Saber Refaei Kenawi**](https://emokymai.vu.lt/user/view.php?id=20114&course=10579) | **9.** Write a program in C++ to display the pattern like right angle triangle with numbers. Sample Output: Input number of rows: 5 1 12 123 1234 12345 |
|  | [**Artem Kopach**](https://emokymai.vu.lt/user/view.php?id=20105&course=10579) | **10.** Write a C++ program that makes a pattern such as a right angle triangle using numbers that repeat. Sample Output:  Input number of rows: 5  1  22  333  4444  55555 |
|  | [**Serdar Alp Kucukoglu**](https://emokymai.vu.lt/user/view.php?id=20103&course=10579) | 13. Write a C++ program to make such a pattern, like a pyramid, with a repeating number. Sample Output:  Input number of rows: 5  1  2 2  3 3 3  4 4 4 4  5 5 5 5 5 |
|  | [**Ayush Kumar**](https://emokymai.vu.lt/user/view.php?id=20123&course=10579) | 14. Write a C++ program that displays the pattern like a pyramid using asterisks, with odd numbers in each row. Sample Output:    Input number of rows: 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\* |
|  | [**Dheeraj Kunnappada**](https://emokymai.vu.lt/user/view.php?id=20134&course=10579) | 11. Write a C++ program to make such a pattern like a right angle triangle with the number increased by 1. Sample Output:  Input number of rows: 4  1  2 3  4 5 6  7 8 9 10 |
|  | [**Oleksandr Makaida**](https://emokymai.vu.lt/user/view.php?id=20086&course=10579) | **12.** Write a C++ program to make such a pattern like a pyramid with numbers increased by 1. Sample Output:  Input number of rows: 4  1  2 3  4 5 6  7 8 9 10 |
|  | [**Suraj Anjana Mirandu**](https://emokymai.vu.lt/user/view.php?id=20091&course=10579) | **15.** Write a C++ program to display a pattern like a diamond. Sample Output:  Input number of rows (half of the diamond): 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*  \*\*\*  \* |
|  | [**Anthony Chinedu Morha**](https://emokymai.vu.lt/user/view.php?id=20078&course=10579) | **4.**Write a program in C++ to find the sum of the digits of a given number. Sample Output: Input a number: 1234 The sum of digits of 1234 is: 10 |
|  | [**Amalraj Mullikkol**](https://emokymai.vu.lt/user/view.php?id=20135&course=10579) | **5.**Write a program in C++ to calculate the sum of the series (1\*1) + (2\*2) + (3\*3) + (4\*4) + (5\*5) + ... + (n\*n). Sample Output: Input the value for nth term: 5 1\*1 = 1 2\*2 = 4 3\*3 = 9 4\*4 = 16 5\*5 = 25 The sum of the above series is: 55 |
|  | [**Al Amin Hossain Nayem**](https://emokymai.vu.lt/user/view.php?id=20128&course=10579) | **6.**Write a program in C++ to calculate the series (1) + (1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+4+...+n). Sample Output: Input the value for nth term: 5 1 = 1 1+2 = 3 1+2+3 = 6 1+2+3+4 = 10 1+2+3+4+5 = 15 The sum of the above series is: 35 |
|  | [**Quwam Olusegun Odefemi**](https://emokymai.vu.lt/user/view.php?id=20121&course=10579) | **7.** Write a program in C++ to find the number and sum of all integers between 100 and 200 which are divisible by 9. Sample Output: Numbers between 100 and 200, divisible by 9: 108 117 126 135 144 153 162 171 180 189 198 The sum : 1683 |
|  | [**Mykola Onishchuk**](https://emokymai.vu.lt/user/view.php?id=20083&course=10579) | **8.** Write a program in C++ to display the numbers in reverse order. Sample Output: Input a number: 12345 The number in reverse order is : 54321 |
|  | [**Oleksandr Prus**](https://emokymai.vu.lt/user/view.php?id=20095&course=10579) | **9.** Write a program in C++ to display the pattern like right angle triangle with numbers. Sample Output: Input number of rows: 5 1 12 123 1234 12345 |
|  | [**Yevheniia Puzanova**](https://emokymai.vu.lt/user/view.php?id=20092&course=10579) | **10.** Write a C++ program that makes a pattern such as a right angle triangle using numbers that repeat. Sample Output:  Input number of rows: 5  1  22  333  4444  55555 |
|  | [**Mahamad Samir Raja Ali**](https://emokymai.vu.lt/user/view.php?id=20093&course=10579) | 13. Write a C++ program to make such a pattern, like a pyramid, with a repeating number. Sample Output:  Input number of rows: 5  1  2 2  3 3 3  4 4 4 4  5 5 5 5 5 |
|  | [**Priyanshu Rawat**](https://emokymai.vu.lt/user/view.php?id=20130&course=10579) | 14. Write a C++ program that displays the pattern like a pyramid using asterisks, with odd numbers in each row. Sample Output:    Input number of rows: 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\* |
|  | [**Emin Samadov**](https://emokymai.vu.lt/user/view.php?id=20107&course=10579) | 11. Write a C++ program to make such a pattern like a right angle triangle with the number increased by 1. Sample Output:  Input number of rows: 4  1  2 3  4 5 6  7 8 9 10 |
|  | [**Sunday Emmanuel Sanni**](https://emokymai.vu.lt/user/view.php?id=20115&course=10579) | **12.** Write a C++ program to make such a pattern like a pyramid with numbers increased by 1. Sample Output:  Input number of rows: 4  1  2 3  4 5 6  7 8 9 10 |
|  | [**Milad Seifi**](https://emokymai.vu.lt/user/view.php?id=20124&course=10579) | **15.** Write a C++ program to display a pattern like a diamond. Sample Output:  Input number of rows (half of the diamond): 5    \*  \*\*\*  \*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\*  \*\*\*\*\*\*\*  \*\*\*\*\*  \*\*\*  \* |
|  | [**Abdurrahman Shabir**](https://emokymai.vu.lt/user/view.php?id=20076&course=10579) | **16.** Write a C++ program to display Pascal's triangle like a pyramid. Sample Output:  Input number of rows: 5  1  1 1  1 2 1  1 3 3 1  1 4 6 4 1 |
|  | [**Maksym Tarasenko**](https://emokymai.vu.lt/user/view.php?id=20116&course=10579) | **17.** Write a C++ program to display Pascal's triangle like a right angle triangle. Sample Output: Input number of rows: 7  1  1 1  1 2 1  1 3 3 1  1 4 6 4 1  1 5 10 10 5 1  1 6 15 20 15 6 1 |
|  | [**Nisa Nur Tezcan**](https://emokymai.vu.lt/user/view.php?id=20088&course=10579) | **18.** Write a program in C++ to display the pyramid pattern using the alphabet. Sample Output:  Input the number of Letters (less than 26) in the Pyramid: 5  A  A B A  A B C B A  A B C D C B A  A B C D E D C B A |
|  | [**Saket Sanjay Tiwari**](https://emokymai.vu.lt/user/view.php?id=20099&course=10579) | **19.** Write a C++ program to print a pyramid of digits as shown below for n number of lines.  1  232  34543  4567654  567898765  Sample Output:  Input the number of rows: 5  1  232  34543  4567654  567898765 |
|  | [**Gloria Varkeychen**](https://emokymai.vu.lt/user/view.php?id=20079&course=10579) | **6.**Write a program in C++ to calculate the series (1) + (1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+4+...+n). Sample Output: Input the value for nth term: 5 1 = 1 1+2 = 3 1+2+3 = 6 1+2+3+4 = 10 1+2+3+4+5 = 15 The sum of the above series is: 35 |
|  | [**Vladyslav Vorobiov**](https://emokymai.vu.lt/user/view.php?id=20096&course=10579) | **7.** Write a program in C++ to find the number and sum of all integers between 100 and 200 which are divisible by 9. Sample Output: Numbers between 100 and 200, divisible by 9: 108 117 126 135 144 153 162 171 180 189 198 The sum : 1683 |
|  | [**Myroslav Voznyi**](https://emokymai.vu.lt/user/view.php?id=20097&course=10579) | **8.** Write a program in C++ to display the numbers in reverse order. Sample Output: Input a number: 12345 The number in reverse order is : 54321 |
|  | [**Keita Watanabe**](https://emokymai.vu.lt/user/view.php?id=20125&course=10579) | **9.** Write a program in C++ to display the pattern like right angle triangle with numbers. Sample Output: Input number of rows: 5 1 12 123 1234 12345 |
|  | [**Ahzem Yaqoob**](https://emokymai.vu.lt/user/view.php?id=20118&course=10579) | **10.** Write a C++ program that makes a pattern such as a right angle triangle using numbers that repeat. Sample Output:  Input number of rows: 5  1  22  333  4444  55555 |
|  | [**Ahmjane Ziad**](https://emokymai.vu.lt/user/view.php?id=20089&course=10579) | **2.** Write a program in C++ to find the sum of the first 10 natural numbers. Sample Output: Find the first 10 natural numbers: --------------------------------------- The natural numbers are: 1 2 3 4 5 6 7 8 9 10 The sum of first 10 natural numbers: 55 |
|  | [**Kyrylo Zyma**](https://emokymai.vu.lt/user/view.php?id=20101&course=10579) | **3.** Write a program in C++ to display n terms of natural numbers and their sum. Sample Output: Input a number of terms: 7 The natural numbers upto 7th terms are: 1 2 3 4 5 6 7 The sum of the natural numbers is: 28 |