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| **INTRODUCTION TO PROGRAMMING IN C (IS-FEE-10061S)**  **WEEK 04** | | | |
| **First Name** | **Last Name** | **Date** | **Points** |
|  |  | **21.03.2024** |  |

**Comments:**

* complete the data in the table above
* paste the program codes in the designed places
* send the file by the end of the day on which the next class will take place

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| **Program no. 1** |
| Write a program that prints the following number sequences. Use one **for** loop to print each sequence.  **1 2 3 4 5 6 7 8 9**  **9 8 7 6 5 4 3 2 1**  **2 4 6 8 10 12 14 16**  **-12 -8 -4 0 4 8 12**  **1 2 4 8 16 32 64 128**  **11 9.5 8 6.5 5 3.5 2 0.5** |
| **Program code:** |
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| **Teacher's comments:** |
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| **Program no. 2** |
| Write a program that reads two integers: the lower and the upper limits of a range. The program should print all numbers within this range, along with their squares and cubes.  Here is an example of program execution:  **Lower limit: 2**  **Upper limit: 5**  **2 4 8**  **3 9 27**  **4 16 64**  **5 25 125** |
| **Program code:** |
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| **Teacher's comments:** |
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| **Program no. 3** |
| The dependence of the resistance of the conductor on temperature is described by the following formula:    where:  *Rt* - resistance at temperature *t*, *R*20 - resistance at 20 ºC,  - temperature coefficient of resistance, ºC-1.  The copper conductor (with ** = 4.3·10-3**) has a resistance **R20 = 10 ** at **t = 20 ºC**. Write a program that calculates and prints the resistance of this conductor for temperatures ranging from **0 ºC** to **200 ºC**, with a step size of **20 ºC**.  Here is the result of program execution:  **0 [C] --> 9.14 [Ohm]**  **20 [C] --> 10.00 [Ohm]**  **40 [C] --> 10.86 [Ohm]**  **60 [C] --> 11.72 [Ohm]**  **80 [C] --> 12.58 [Ohm]**  **100 [C] --> 13.44 [Ohm]**  **120 [C] --> 14.30 [Ohm]**  **140 [C] --> 15.16 [Ohm]**  **160 [C] --> 16.02 [Ohm]**  **180 [C] --> 16.88 [Ohm]**  **200 [C] --> 17.74 [Ohm]** |
| **Program code:** |
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| **Teacher's comments:** |
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| **Program no. 4** |
| Write a program that reads integers until the user enters zero. Then, the program should print the number of odd numbers entered.  Here are examples of program execution:   |  |  | | --- | --- | | **Number: 3**  **Number: 2**  **Number: -1**  **Number: 4**  **Number: 1**  **Number: 0**  **---------------**  **Odd numbers: 3** | **Number: 6**  **Number: 5**  **Number: -2**  **Number: -3**  **Number: 4**  **Number: 0**  **---------------**  **Odd numbers: 2** | |
| **Program code:** |
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| **Teacher's comments:** |
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| **Program no. 5** |
| Write a program that reads integers until they form an increasing sequence. Then, the program should print the sum of all numbers in this sequence (excluding the last value).  Here are examples of program execution:   |  |  |  | | --- | --- | --- | | **Number: 2**  **Number: 4**  **Number: 5**  **Number: 8**  **Number: 7**  **------------**  **Sum: 19** | **Number: -2**  **Number: 0**  **Number: 3**  **Number: 4**  **Number: 4**  **------------**  **Sum: 5** | **Number: 2**  **Number: 1**  **------------**  **Sum: 2** | |
| **Program code:** |
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| **Teacher's comments:** |
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| **Program no. 6** |
| Using **scanf()** function, enter a natural number and calculate the sum of its digits.  Here are examples of program execution:   |  |  |  | | --- | --- | --- | | **Number: 354**  **-------------**  **Sum: 12** | **Number: 3**  **-------------**  **Sum: 3** | **Number: 1549**  **-------------**  **Sum: 19** | |
| **Program code:** |
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| **Teacher's comments:** |
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