1. Given an integer n write a program that outputs the average of all numbers from 0 to n.

|  |  |
| --- | --- |
| Input | Output |
| 5 | 3 |
| 7 | 4 |
| 25 | 13 |

1. Write a program that reads two integers from the console – m and n and calculates the sum of all integer numbers between them

|  |  |
| --- | --- |
| Input | Output |
| 4  7 | 22 |
| 6  10 | 40 |
| 3  20 | 207 |

1. Write a program that reads an integer – n from the console and outputs all even numbers from 0 to n.

|  |  |
| --- | --- |
| Input | Output |
| 5 | 2 4 |
| 8 | 2 4 6 8 |
| 15 | 2 4 6 8 10 12 14 |

1. Write a program that reads an integer – n from the console and outputs the sum of all odd numbers from 0 to inclusive.

|  |  |
| --- | --- |
| Input | Output |
| 5 | 9 |
| 6 | 9 |
| 10 | 25 |

1. Write a program that determines whether a number is a [palindrome](https://en.wikipedia.org/wiki/Palindrome)

|  |  |
| --- | --- |
| Input | Output |
| 121 | Yes |
| 123 | No |
| 1221 | Yes |
| 123312 | No |

1. Write a program that reads an integer – n from the console and outputs the factorial of the given number

|  |  |
| --- | --- |
| Input | Output |
| 2 | 2 |
| 3 | 6 |
| 4 | 24 |
| 6 | 720 |

1. Write a program that reads an integer – n from the console and outputs a triangle of asterixes

|  |  |
| --- | --- |
| Input | Output |
| 3 | \*  \*\*  \*\*\* |
| 4 | \*  \*\*  \*\*\*  \*\*\*\* |
| 6 | \*  \*\*  \*\*\*  \*\*\*\*  \*\*\*\*\*  \*\*\*\*\*\* |

1. Write a program that reads an integer – n and outputs a triangle in the following format

|  |  |
| --- | --- |
| Input | Output |
| 2 | 1  12 |
| 5 | 1  1 2  1 2 3  1 2 3 4  1 2 3 4 5 |
| 3 | 1  1 2  1 2 3 |

1. Write a program that reads an integer – n and outputs a quadratic matrix in the following format

|  |  |
| --- | --- |
| Input | Output |
| 3 | 1 2 3  4 5 6  7 8 9 |
| 5 | 1 2 3 4 5  6 7 8 9 10  11 12 13 14 15  16 17 18 19 20  21 22 23 24 25 |

1. Write a program that reads an integer – n and outputs a triangle in the following format

|  |  |
| --- | --- |
| Input | Output |
| 3 | 1  2 2  3 3 3 |
| 5 | 1  2 2  3 3 3  4 4 4 4  5 5 5 5 5 |

1. Write a program that reads an integer – n and outputs a triangle in the following format

|  |  |
| --- | --- |
| Input | Output |
| 2 | 1  2 3 |
| 4 | 1  2 3  4 5 6  7 8 9 10 |
| 5 | 1  2 3  4 5 6  7 8 9 10  11 12 13 14 15 |

1. \*Write a program that reads an integer – n from the console and prints a pyramid of asterixes

|  |  |
| --- | --- |
| Input | Output |
| 2 | \*  \* \* \* |
| 3 | \*  \* \* \*  \* \* \* \* \* |
| 5 | \*  \* \* \*  \* \* \* \* \*  \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* |