

Introduction to Computer Programming

04. Arrays

Exercises

1. Write a program which reads 20 numbers given by the user and prints them out in reverse order.
2. Write a program which asks the user how many numbers he wants to provide, then reads these numbers, stores them in an array, calculates their average and prints it out in the following format:

The average of numbers 1 2 3 4 5 6 is 3.5

3. Write a program which will draw a frequency histogram of numbers given by the user. The numbers should be in the range between 1 and 5. Example execution of the program is given below.

```
How many numbers do you want to enter: 10
Enter number 1: 5
Enter number 2: 1
Enter number 3: 1
Enter number 4: 2
Enter number 5: 2
Enter number 6: 2
Enter number 7: 2
Enter number 8: 3
Enter number 9: 5
Enter number 10: 1

1: ***
2: ****
3: *
4:
5: **
```

4. Write a program which will sort an array of numbers given by the user. In your solution implement bubble sort algorithm.
5. Write a program which will print all prime numbers between 1 and the number given by the user. In your solution implement the sieve of Eratosthenes.
6. Modify your tic-tac-toe game from the previous assignment so that the game state (the board) is stored in an array.