1. Write a program that allocates array of 20 integers and initializes each element by its index multiplied by 5. Print the obtained array on the console.
2. Write a program that reads two arrays from the console and compares them element by element.
3. Write a program that compares two char arrays lexicographically (letter by letter).
4. Write a program that finds the maximal sequence of equal elements in an array.

Example: {2, 1, 1, 2, 3, 3, 2, 2, 2, 1} 🡪 {2, 2, 2}.

1. Write a program that finds the maximal increasing sequence in an array. Example:   
   {3, 2, 3, 4, 2, 2, 4} 🡪 {2, 3, 4}.
2. Write a program that reads two integer numbers N and K and an array of N elements from the console. Find in the array those K elements that have maximal sum.
3. Sorting an array means to arrange its elements in increasing order. Write a program to sort an array. Use the "selection sort" algorithm: Find the smallest element, move it at the first position, find the smallest from the rest, move it at the second position, etc.
4. Write a program that finds the sequence of maximal sum in given array. Example:

{2, 3, -6, -1, 2, -1, 6, 4, -8, 8} 🡪 {2, -1, 6, 4}

1. Write a program that finds the most frequent number in an array. Example:

{4, 1, 1, 4, 2, 3, 4, 4, 1, 2, 4, 9, 3} 🡪 4 (5 times)

1. Write a program that finds in given array of integers a sequence of given sum S (if present). Example:  
    {4, 3, 1, 4, 2, 5, 8}, S=11 🡪 {4, 2, 5}
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3. Write a program that creates an array containing all letters from the alphabet (A-Z). Read a word from the console and print the index of each of its letters in the array.
4. Write a program that finds the index of given element in a sorted array of integers by using the [binary search](http://en.wikipedia.org/wiki/Binary_search_algorithm) algorithm (find it in Wikipedia).
5. Write a program that sorts an array of strings using the [quick sort](http://en.wikipedia.org/wiki/Quicksort) algorithm (find it in Wikipedia).
6. Write a program that finds all prime numbers in the range [1...10 000 000]. Use the [sieve of Eratosthenes](http://en.wikipedia.org/wiki/Sieve_of_Eratosthenes) algorithm (find it in Wikipedia).
7. \* We are given an array of integers and a number S. Write a program to find if there exists a subset of the elements of the array that has a sum S. Example:   
   arr={2, 1, 2, 4, 3, 5, 2, 6}, S=14 🡪 yes (1+2+5+6)
8. \* Write a program that reads three integer numbers N, K and S and an array of N elements from the console. Find in the array a subset of K elements that have sum S or indicate about its absence.
9. \* Write a program that reads an array of integers and removes from it a minimal number of elements in such way that the remaining array is sorted in increasing order. Print the remaining sorted array. Example:  
   {6, 1, 4, 3, 0, 3, 6, 4, 5} 🡪 {1, 3, 3, 4, 5}