

## Part 1 – Arrays

### 1. Hours and wages

Write a program that calculates the salary for an employee who has worked the following hours in a five day week.

Monday	8
Tuesday	7
Wednesday	9
Thursday	7
Friday	4

The rate of pay is £10.25 per hour. The program should output the number of hours worked each day, the total hours worked in the week and the final weekly salary.

Use an array to store the hours and a Constant for the rate of pay.

### 2. Temperatures

Write a program that stores the following temperatures and then outputs the average temperature.

3.4	4.2	9.0	2.2	4.5	6.4	3.1
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### 3. Heights

1.4	1.9	1.31	1.2
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Write a program that stores the above 4 students' heights. Then calculate the average height and the tallest and smallest height.

4. In the software industry programmers are commonly required to altering existing programs.
  - Alter the **hours and wages program** to enable it to deal with a six day working week. The rate of pay is also increased to £11.50 per hour. Use suitable test data to test your changes.
  - Alter the **Temperatures program** to calculate the maximum and minimum temperature for each week.
5. Write a program that will prompt the user to enter their first name. This will be stored as a string. The program will then loop through the string and assign each value to a char array. Count the occurrences of the different vowels: a, e, i, o, u. The program should take into account both lowercase and uppercase characters. The total number of occurrences for each vowel should also be calculated and displayed.
6. Create an array that will be populated with all the even numbers from 1 to 100. Output the contents of the array and the total of all the even numbers.
7. Create a method that will output the contents of an array of *ints* (of any size) to screen.
8. Create two arrays that will hold the exam marks for two assignments.

**Assignment 1**

24	42	29	66	77
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**Assignment 2**

79	68	31	22	42
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Output :

- the average mark of *each* Assignment (to one decimal place).
- The overall average mark in both assignments i.e. average A1 + average A2

- The assignment with the best average.

9. Create a String array to hold the following quote .. (Each word should be stored as an element in the array.)

“Continuous effort not strength nor intelligence is the key for unlocking our potential”.

Output

- The full quote.
- The number of words
- The number of letters
- The smallest word(s)
- The largest word(s)

## Part 2 – 2D Arrays

1. Create and populate a 2D array to hold the following data. Note use a FOR loop to populate the values...

2	4	6	8
10	12	14	16
18	20	22	24
26	28	30	32

2. Output the values in the array to screen
3. Output the total of all the values in the array to screen.
4. Output the average value of all the values in the array to screen.