Full name							
Student ID	**S**						

Theory

Exercise 1

Interpreting $AF04_H$, 8711_H as 2 numbers in two's complement: - Which one is the greatest - Calculate the sum and write it using hexadecimal format	*Greatest:* *Sum:*
Significant passages 	

Exercise 2

Check wether if the following Boolean expression are equivalent: $\bar{a}\bar{b}\bar{c} + \bar{a}b\bar{c} + \bar{a}\bar{b}c + a\bar{b}c + abc + a\bar{b}\bar{c}$ $b + c$	*Result:*
Significant passages 	

Exercise 3

Which is the formula to calculate the number of bytes required to store an image B x H and 16.384 colors?

C Language

Write a C program to find words in two crossword puzzles. The word may be written left-to-right (as usual), right-to-left, top-to-bottom or bottom-to-top. The matrix is stored in a text file. Empty spaces are marked with the dot "." character. The size of the matrix is not known in advance, but it cannot exceed 50 x 50. Example:

```
.GATTO.....L...
.A.O....A..A...
.S.RITORNO.U...
...I....N..R...
...N...SOGNO...
PCMODORO.......
```

A second text file contains a list of worlds, one per line. Example:

```
GATTO
MODO
ANNO
GIORNO
```

The program receives the names of the two files on the command line. It must check if the words of the second file are in the puzzle. If the word is present, it must display the coordinates of the first character and the writing direction (N, S, E, W).

```
GATTO  found in row 1, col 2 (E)
MODO   found in row 6, col 3 (E)
ANNO   found in row 2, col 9 (S)
GIORNO not found
```