**Teacher: Mr. Mbiethieu Cezar**

**Course: Algorithm and Data structure (CSC113)**

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| C:\Users\PRCARL~1\AppData\Local\Temp\Slide1.jpgREPUBLIC OF CAMEROON Peace – Work – Fatherland  **----------** THE UNIVERSITY OF BAMENDA **--------**  **HIGHER TECHNICAL TEACHER TRAINING**  **COLLEGE (H.T.T.T.C.) BAMBILI – BAMENDA**  **---------**  P.O BOX 39 BAMBILI TEL : 33 36 36 94 | REPUBLIQUE DU CAMEROUN Paix – Travail -Patrie  **--------**  UNIVERSITE DE BAMENDA  **-----------** ECOLE NORMALE SUPERIEURE DE L’ENSEIGNEMENTTECHNIQUE (ENSET) DE BAMBILI - BAMENDA **-----------**  **FAX / 33 05 10 69** |

TUTORIAL N°1

**Exercise N° 01**  
Write an algorithm which allows to convert a given time (in second) to hours, minutes and seconds.

Example: if time = 3674 then the algorithm will display: 3674 s = 1 h: 1 min : 14 s

**Exercises N° 02**  
Write an algorithm which allows to calculate the between two points M (a, b) et N (c, d);

**Exercise N° 03**

Write an algorithm named CAPACITY which convert in Bytes, Kilo Bytes, Mega Bytes, and Giga Byte a number given in bits.

**Exercise N° 4**

Write an algorithm which gives the number of days of a month from the number of that month.  
Example:  
if month = 1 then the algorithm display : The number of days of the month 1 is 31 days

if month = 4 then the algorithm display : The number of days of the month 4 is 30 days

if month = 2 and year=2004 then the algorithm display : The number of days of the month 2 is 29 days

if month = 2 and year=2006 then the algorithm display : The number of days of the month 2 is 28 days.

**Exercise N° 5**

Write an algorithm which takes as input two reals numbers and an operator, then display the answer of the chosen operation on the numbers.

Example: if the numbers are 14 and 2 and the operator is “/” then the screen will display

14.00 / 2.00 = 7.00

**Exercise N° 6**

Write an algorithm named FACTORIAL which receives an integer as input and calculates his factorial.

**Exercise N°7**

Write an algorithm which allows to display the four first perfect numbers.

**Exercise N° 8**

Write an algorithm named CUBIC\_SEARCH which allows to find and display all the cubic integers of 3 digits. An integer number with 3 digits is said to be cubic if it is equal to the sum of its 3 digits.

Example 153 is cubic because 153 = 13 + 53 + 33

**Exercice N° 9**

Write an algorithm allowing to get n integers which are odd and computer their average. (n belonging to [15,30])

**Exercise N° 10**

Write an algorithm that calculates the GCD of two given integers (not null).