**COMP3315 Lab3: MIPS Sorting**

03.10.2021

**Number and Name:**

1. **Object**: MIPS Sorting
2. **Procedure**:

Write and run a MIPS algorithms that inpus an array of integers at data segment and the code sorts these integers using **Exchange** **sort** from low to high and prints it.

**Example**: array: .word 8, 1, 4, 5, 6, 3, 2, 9, 7, 0

Output: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

Write the C code first and then convert it to MIPS code and the output with short comments in the box below.

#include<stdio.h>

int main()

{

int array[10] = {8, 1, 4, 5, 6, 3, 2, 9, 7, 0}; // An array of integers.

int length = 10; // Lenght of the array.

int i, j = 0;

int temp;

//Algorithm exchange

for(i = 0; i < (length -1); i++)

{ for (j=(i + 1); j < length; j++)

{

if (array[i] > array[j])

{

temp = array[i];

array[i] = array[j];

array[j] = temp;

}

}

}

// output

for (i = 0; i < 10; i++)

{

printf("%d ",array[i]);

}

}