Universitat de les Illes Balears

21744 – Programming Projects Laboratory

Academic year 2016 – 2017

OpenCL

OBJECTIVE:
The student must implement an OpenCL Application.

PROJECT REQUIREMENTS:
Bitonic Sort algorithm in OpenCL.
Practice must be developed individually, and must be released before January 18th 2017 on CampusExtens. For extraordinary evaluation must be released before February 7th 2017.
Release must include:

1. Source code project.
2. A PDF documentation with the following chapters:
    a. Front page, containing title of the project, author's name, subject and academic year.
    b. Briefly user manual, the student must stand out extraordinary aspects.
    c. Conclusions on most important aspects, explain how solved most difficult ones.

APPLICATION DETAILS:
Implement an application that implement the bitonic sort algorithm for an integer array.
https://en.wikipedia.org/wiki/Bitonic_sorter
The user must be able to select OpenCL platform and device. After selecting must choice the number of elements of the array (number power of two: 16, 32, 64…. 1024….65536…), the application will fill the array with random values and will sort it using OpenCL.
Finally must show original and sorted values and spended time in carry out the sorting process, splitted by: sending data, processing, retrieving data.