Computer Exercise

CPU SCHEDULING

Scheduling Exercise. 15 tasks must be run on 3 CPUs at 1.33, 2 and 2.66 GHz, respectively. Each processor can run only one job at a time. The number of elementary operations of the tasks, expressed in billions of instructions (BI), is as follows:

Process	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BI	1.1	2.1	3	1	0.7	5	3	0.9	2	1.8	4.6	3.1	1.6	0.6	2.8

Schedule tasks to processors so that the total time to complete all tasks is minimized. Note: Clock speed is measured in cycles per second, and one cycle per second is known as 1 hertz. This means that a CPU with a clock speed of 2 gigahertz (GHz) can carry out two thousand million (or two billion) cycles per second. Assume that the relationship between GHz and BI is linear. What is the minimum time to schedule all tasks?

Visualization. Create a visualization of the results that illustrates which job is assigned to which processor, the total time for each processor, and the overall percentage utilization of each processor.

The visualization must be dynamically generated and can be created as a stacked bar chart plot or saved to an Excel file, so that we can easily run your code and click to see your visualization.