Write a MIPS assembly program that sorts data in the descending order (from the biggest to the smallest) using any sorting algorithm. The input data is defined in the data section (Input_data). Output_data are initially filled with 0s, as shown below. After executing your sorting program, Output_data in the data section should have the sorted numbers from the biggest to the smallest (from +15 to -16).

Screen-capture the execution outcome in SPIM. Explain your algorithm to sort the data. **Note that you should add comments beside each line of your assembly code.**

```
.data
.align 4
Input_data: .word 2, 0, -7, -1, 3, 8, -4, 10
          .word -9, -16, 15, 13, 1, 4, -3, 14
          .word -8, -10, -15, 6, -13, -5, 9, 12
          .word -11, -14, -6, 11, 5, 7, -2, -12

Output_data: .word 0, 0, 0, 0, 0, 0, 0, 0
             .word 0, 0, 0, 0, 0, 0, 0, 0
             .word 0, 0, 0, 0, 0, 0, 0, 0
             .word 0, 0, 0, 0, 0, 0, 0, 0
```

**What and How to submit:**
1. Upload your assembly code to Blackboard before the class begins
2. Upload pdf to Blackboard before the class begins
   - Explanation of the assembly code
   - Output screen-capture after the program execution

**Note:** This is an individual assignment. You are welcome to discuss, but DO NOT COPY solutions. If you are found to copy solutions from others or slightly modify the solutions from others, both of you will be given 0 credits.