Exercise 2: OpenMP Loop Schedules

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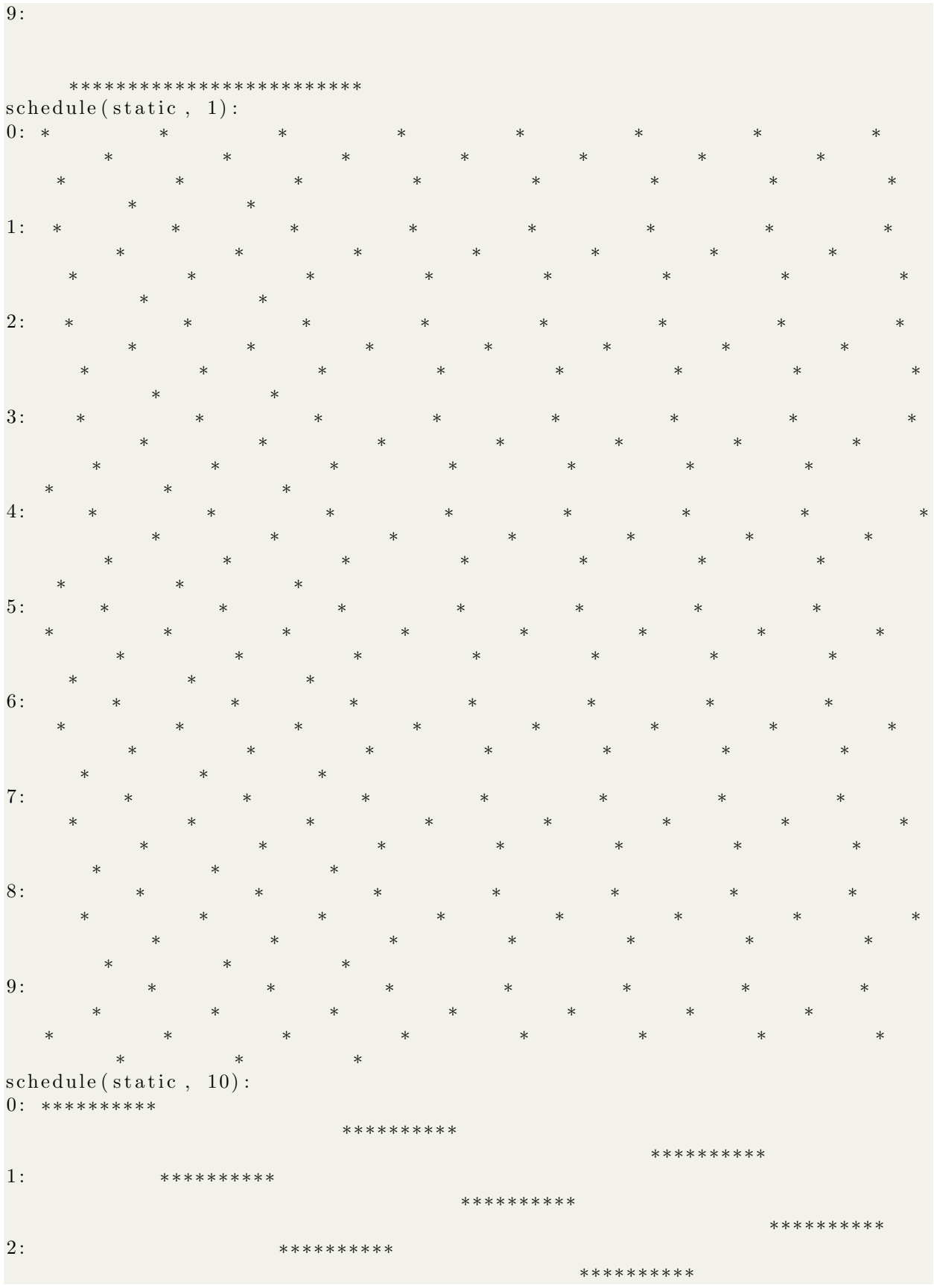
Abstract

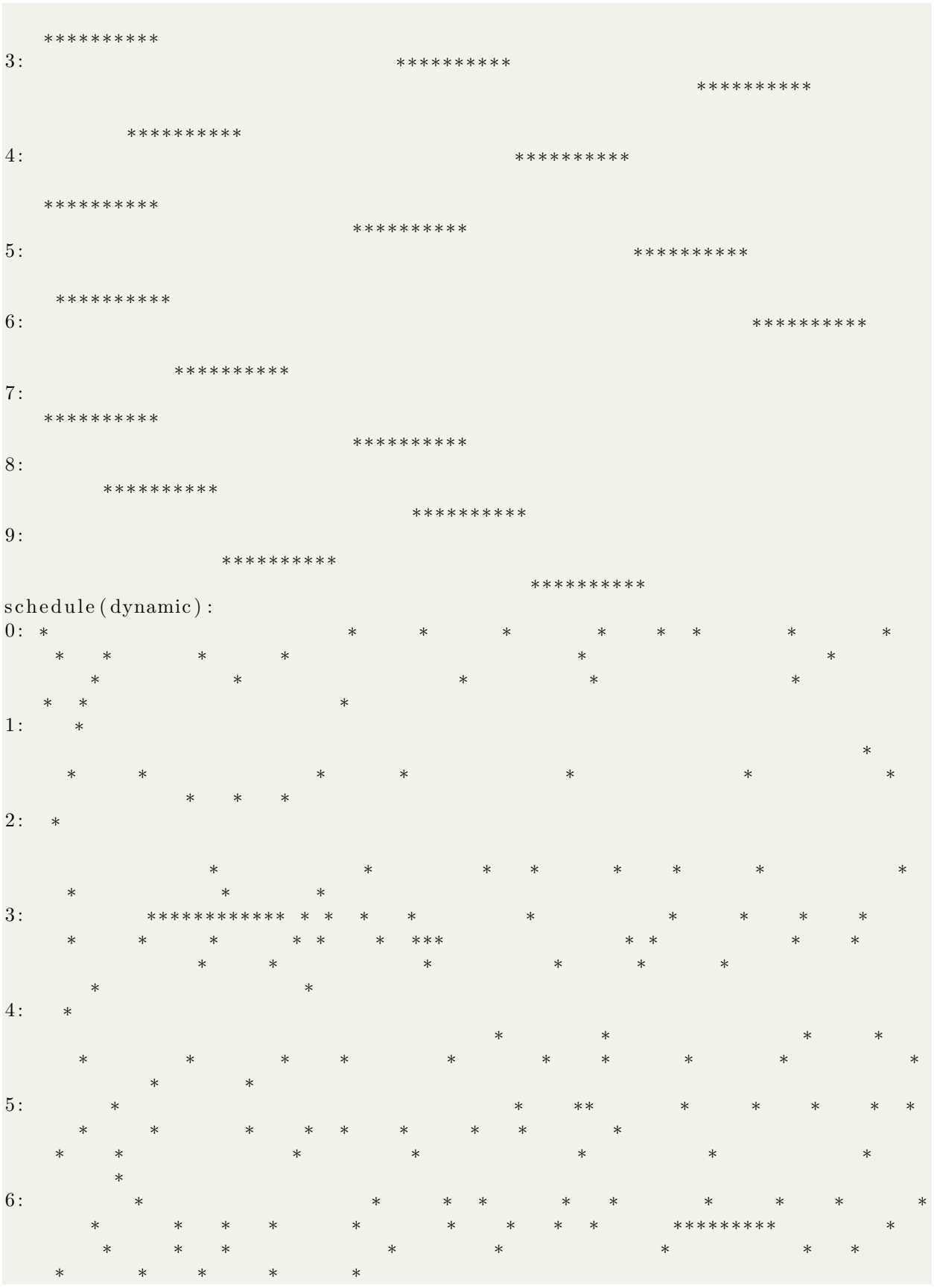
In the second exercise for the Parallel computing course, our aim is to visualize different OMP schedules using different chunks.

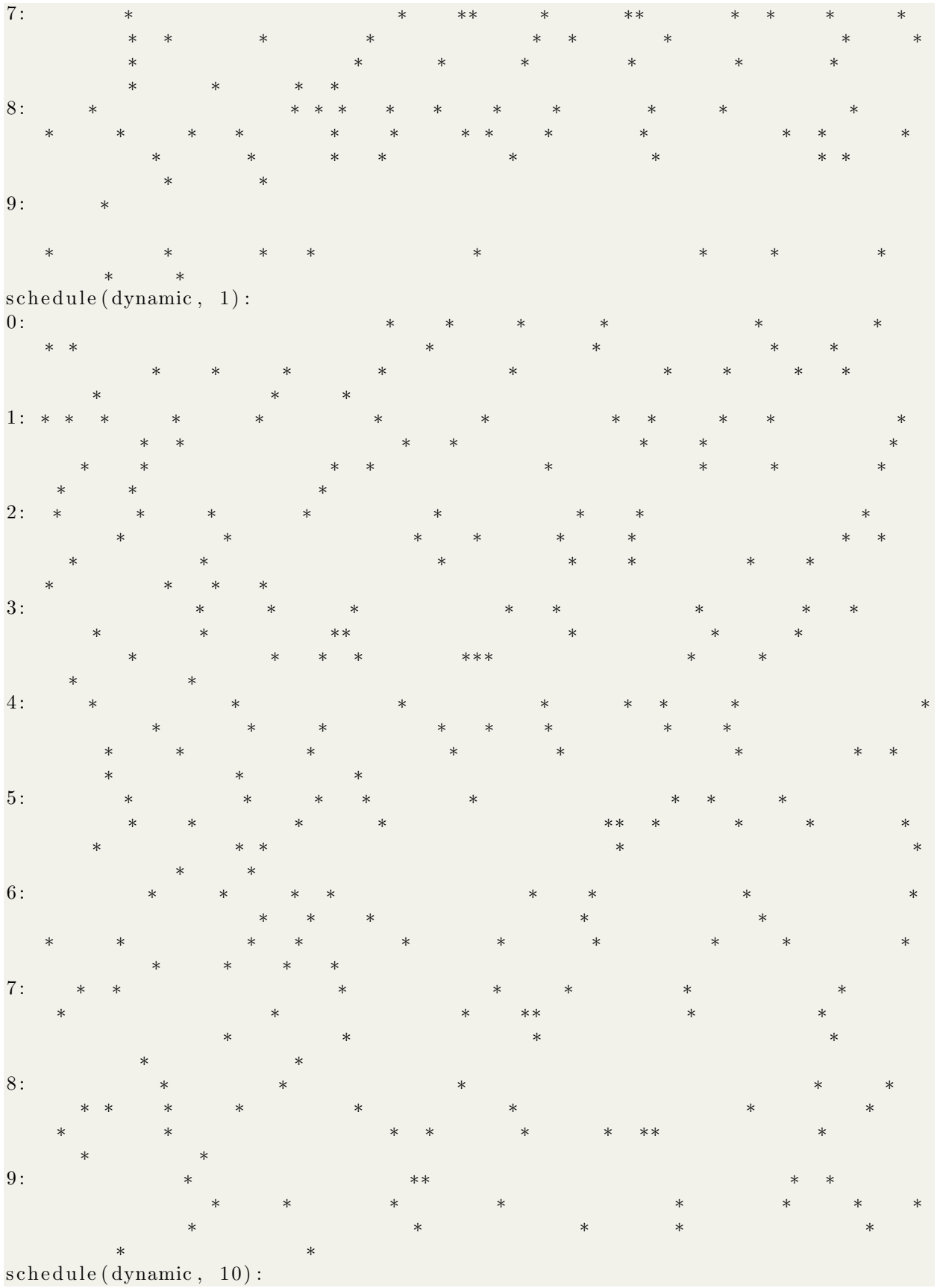
1 Procedure and Results

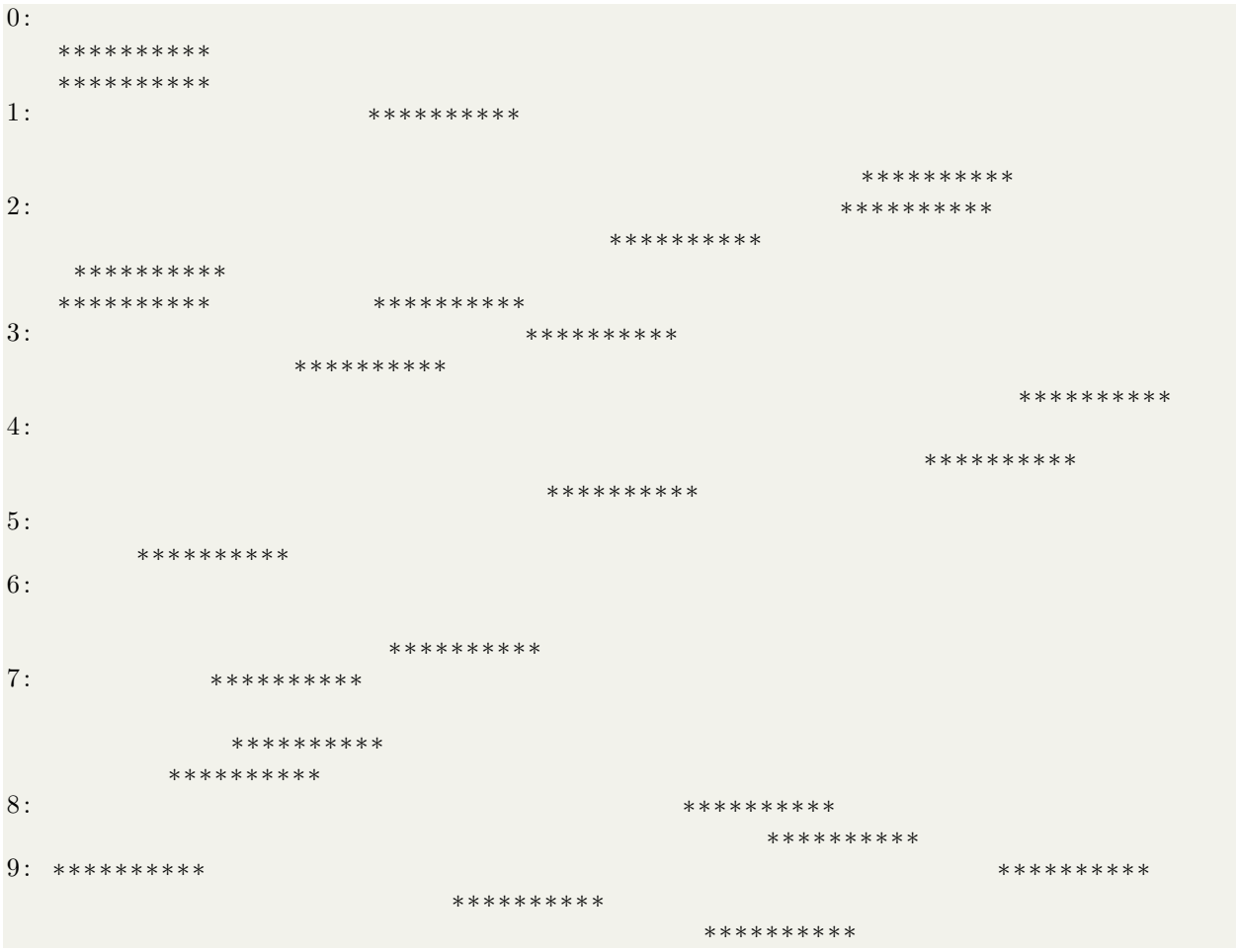
I implemented the six schedules described in the assignment and run the code on an Ulysses node using 10 threads through a script. The following listing presents the results of code execution.

```
1
2  Run ex2 with 10 threads
3
4  serial:
5  0: ****************************************************************
6  ****************************************************************
7  ****************************************************************
8  ********************************************
9  schedule(static):
10 0: ************************
11 1:                          ************************
12 2:                                                   ************************
13 3:
       ************************
14 4:
                               ************************
15 5:
       ************************
16 6:
        ************************
17 7:
                                 ************************
18 8:
       ************************
```


9:
schedule(static, 1):
0:
1:
2:
3:
4:
5:
6:
7:
8:
9:
schedule(static, 10):
0:
1:
2:


3:
4:
5:
6:
7:
8:
9:
schedule(dynamic):
0:
1:
2:
3:
4:
5:
6:


7:
8:
9:
schedule(dynamic, 1):
0:
1:
2:
3:
4:
5:
6:
7:
8:
9:
schedule(dynamic, 10):



2 Reproducibility

In order to obtain results that are similar to those listed above, simply clone the Github repository [1] in the personal Ulysses folder and run the following command from your main folder:

```
qsub -q reserved3 -l nodes=1:ppn=20 parallel-computing/Assignments/ex02/ex2.sh
```

The result will be contained in the ex2.sh.o* file which will be created in the Assignments folder.

References

[1] `https://github.com/gsarti/parallel-computing`