

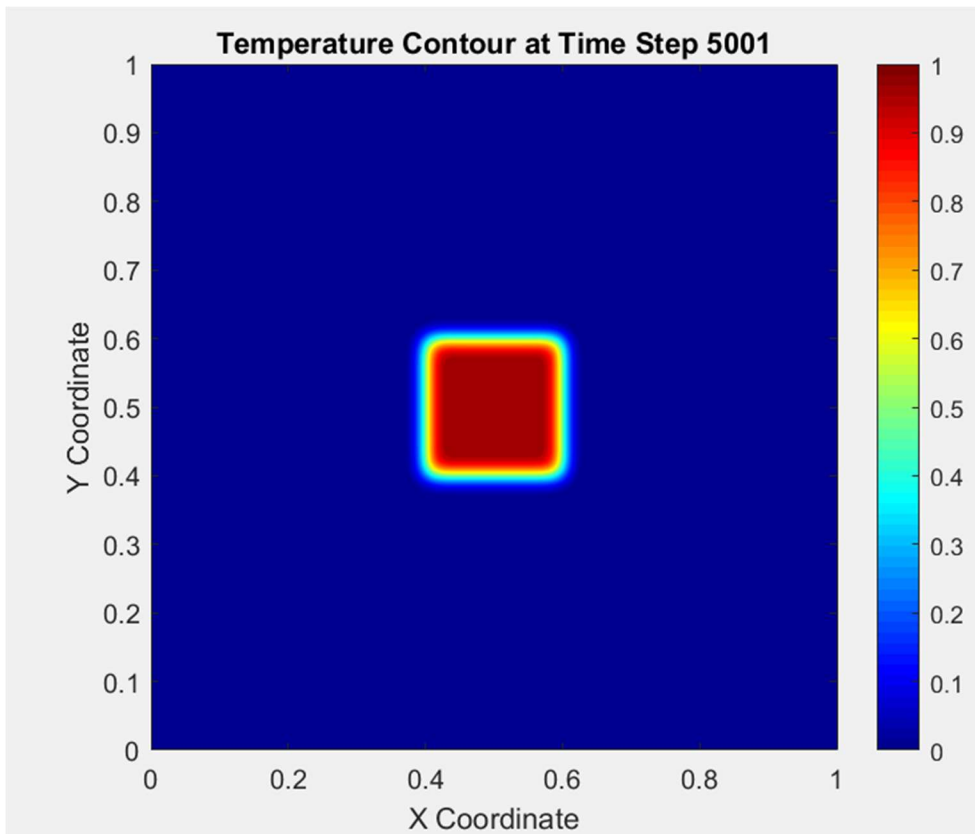
Hc2d heat conduction:

Time taken by the **serial code**: 928.350130s

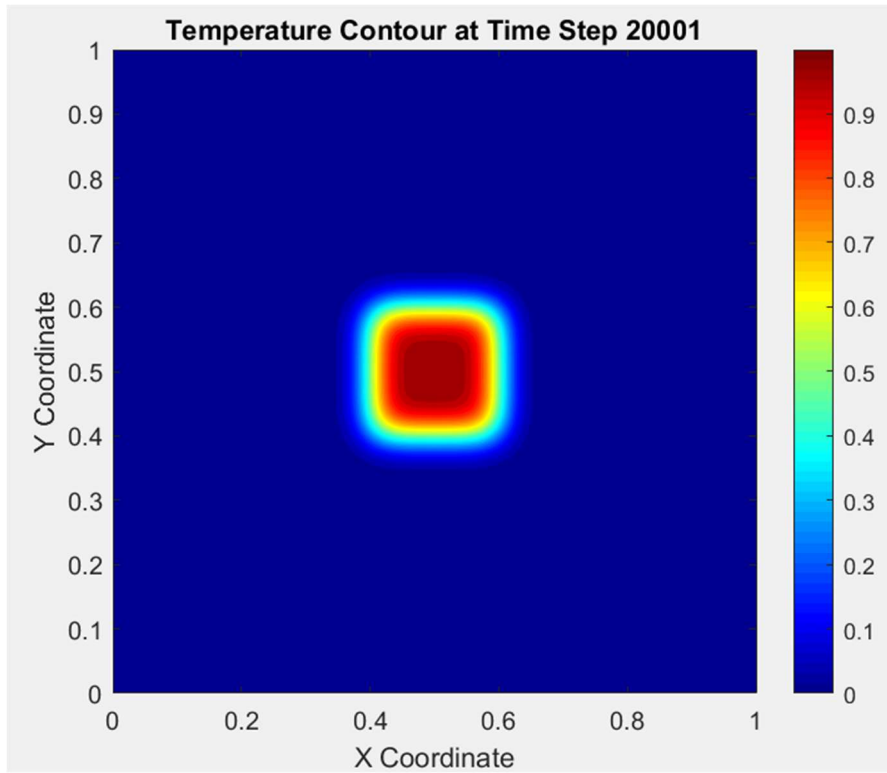
Time taken by the parallel code (**2*4** processor config): 331s

Plots of temperature:

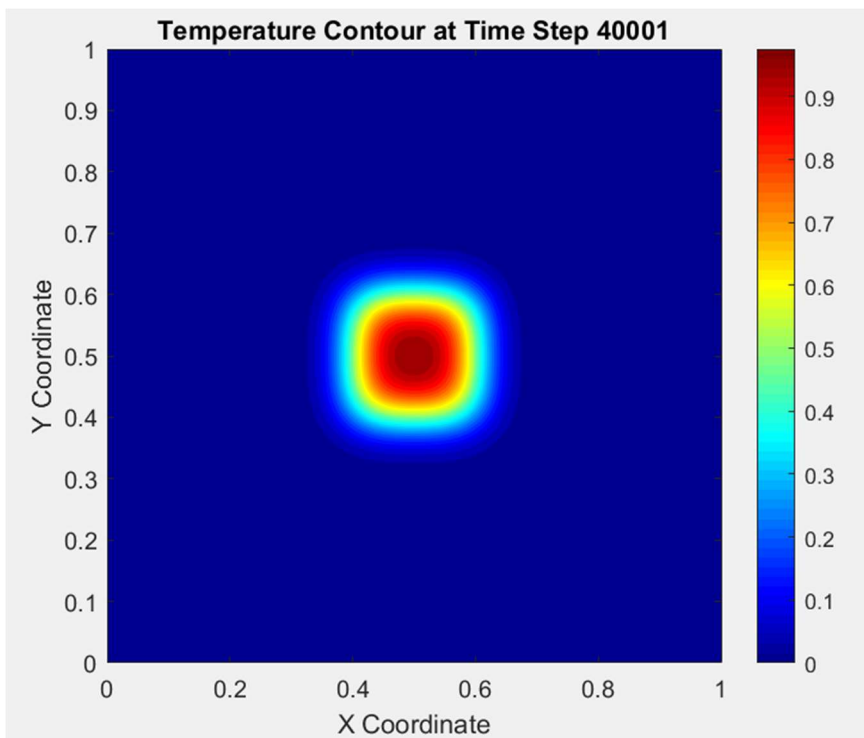
1) Time step: 5001



2) Time step:20001



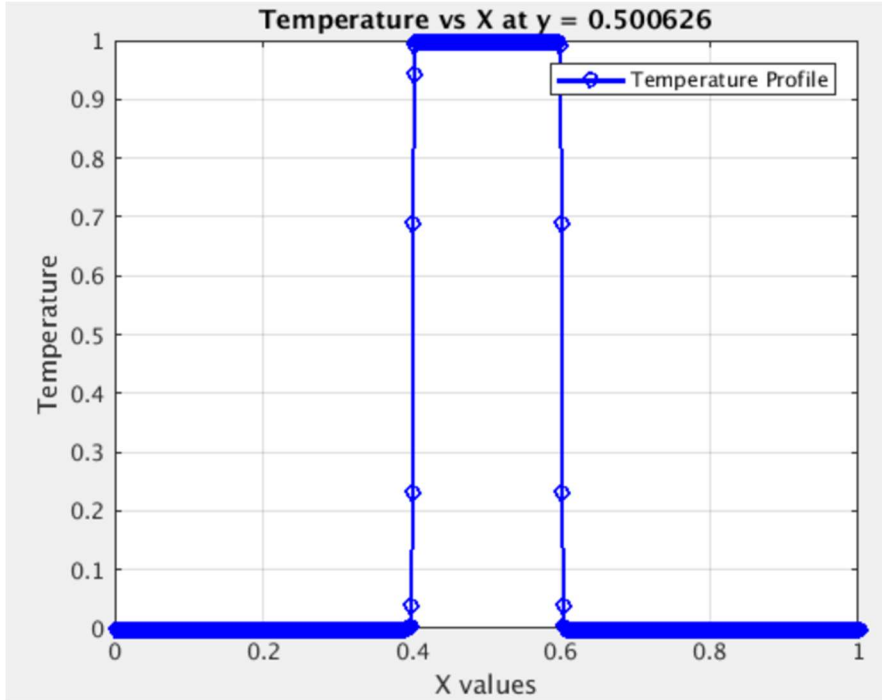
Time step: 40001



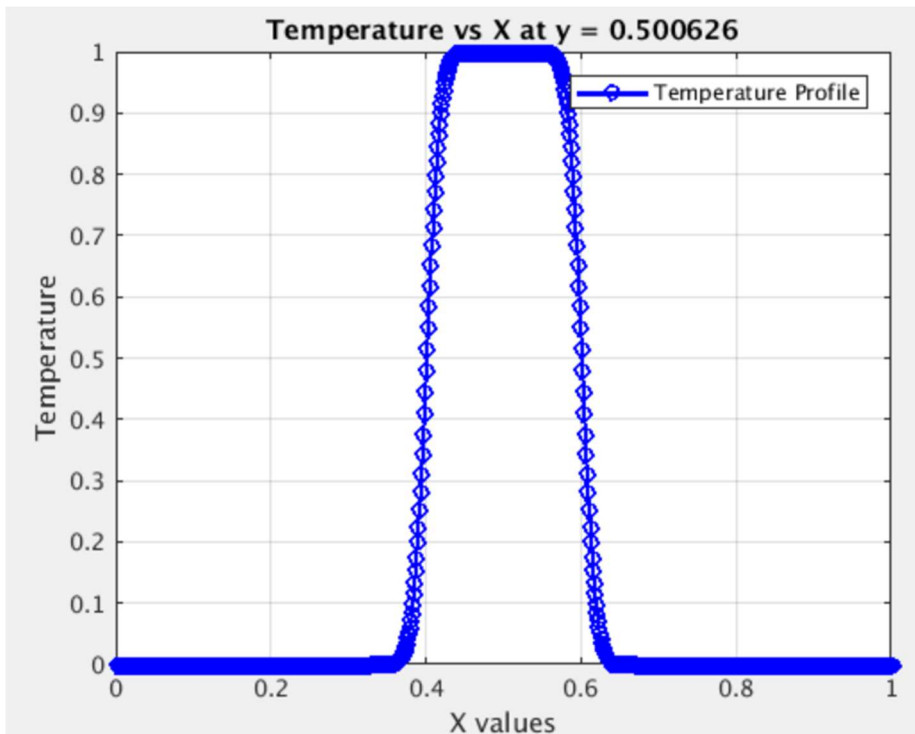
Processor config (4*4):

Time taken for completion: 369.43s

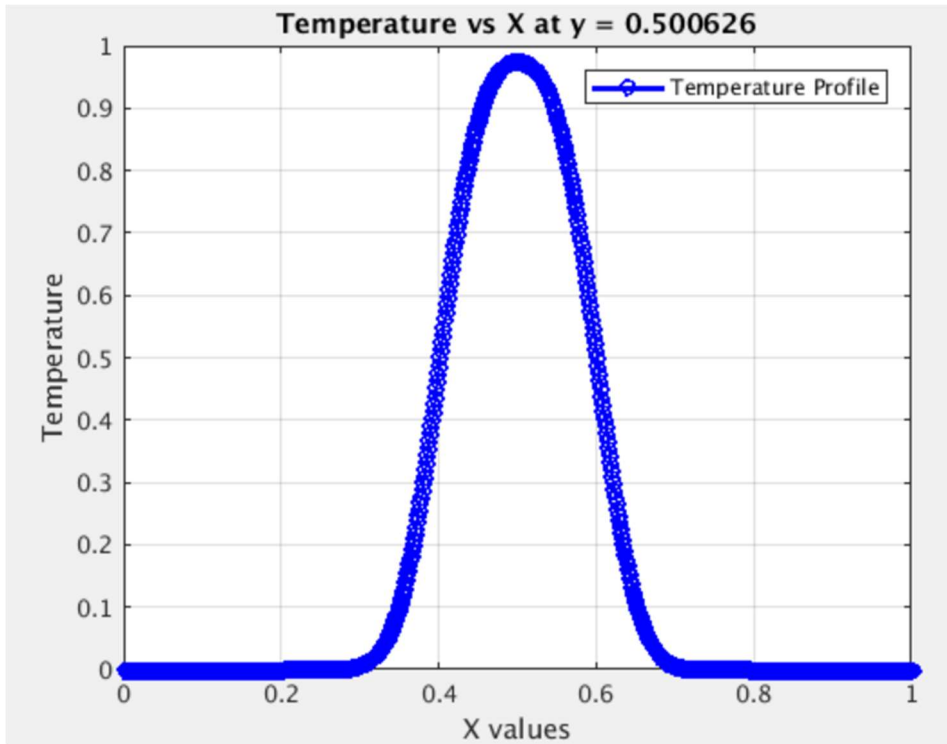
Center line temperature plot: (time step = 0)



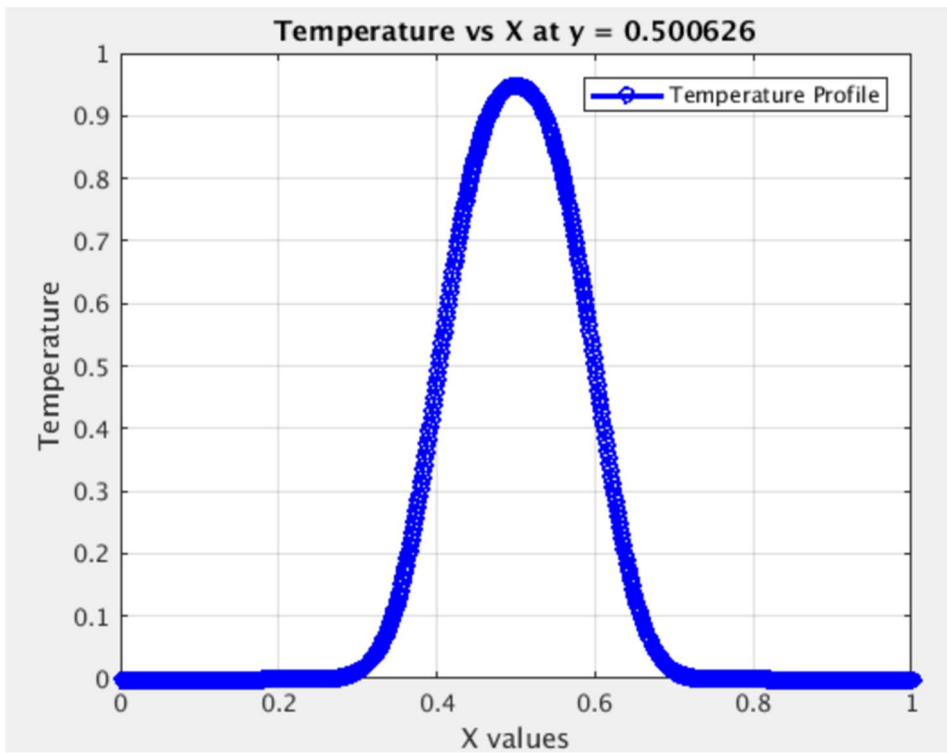
Time step: 5001



Time step: 40001



Final Time step (50001):



Temperature plots obtained are the same as above all the images are available in the file uploaded.

There is no improvement of the time taken for completion when processors are increased from 8 to 16 which demonstrates Amdahl's law

For 10 timesteps:

No. of processors	Time taken(s)	Serial time(s)
4	0.852	1.71
8	0.762	1.71
16	0.8	1.71