Assignment – 3

1. **In Monte – Carlo technique first we stimulate random (x,y) values in the 2-D plane then we made a circle of radius that we know and check whether a point lie inside it or outside and according to it we have taken their ratio and from that found the value of pie.**
   To increase the accuracy of the pie we can increase the no of operations we are doing but it also depends on area of circle, larger the area more the chances of a random no to come inside and ratio of inside and outside will be close to the pie value.

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   Estimated value of Pie :  3.156
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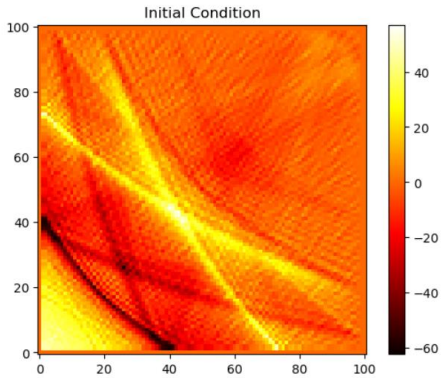
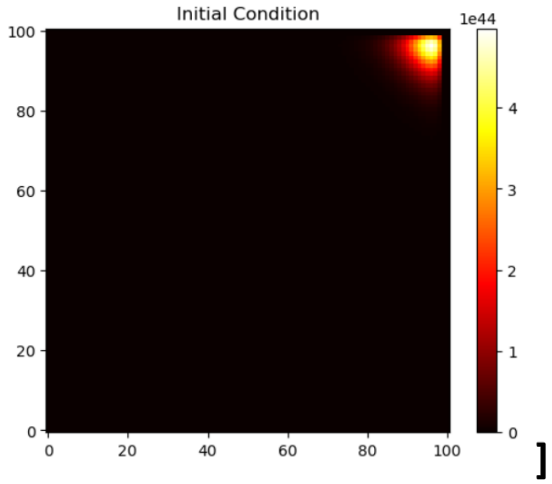
2. **By choosing a larger lambda value the rate at which the value in T will change faster this means that the heap or diffusion process will occur more rapidly in each step consequently propagation of values from high concentration region to the surrounding area will be more pronounced .**

   For some lambda it coming like this

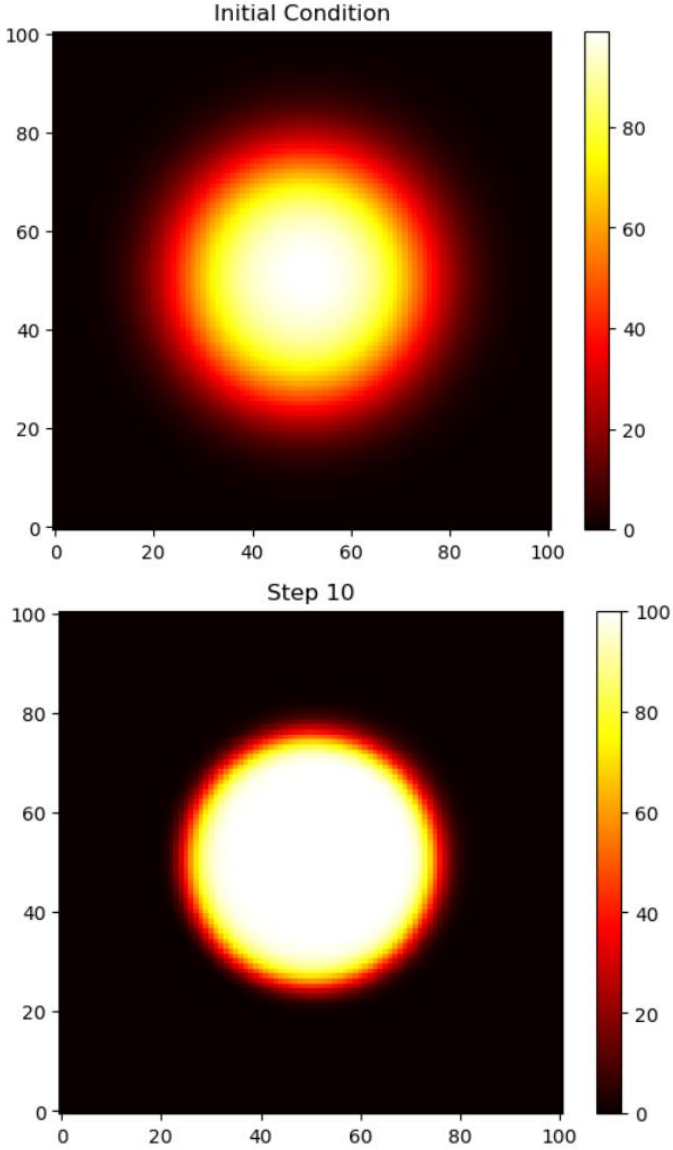


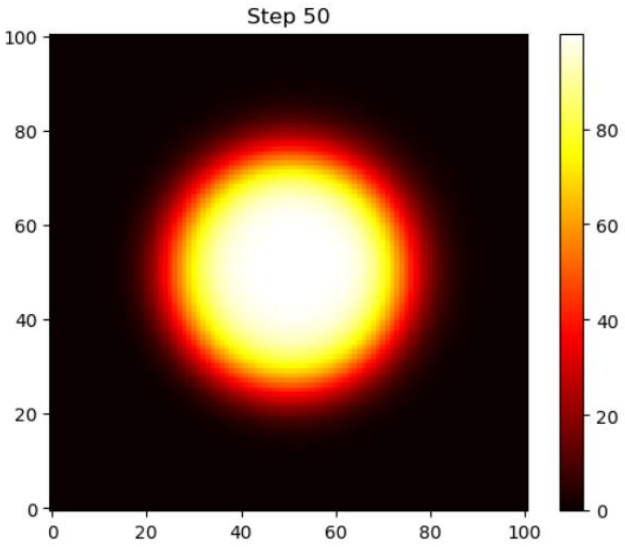
Then after it suddenly shrinked



]

For lambda = 0.2




Step 50
100
80
60
40
20
0
0
20
40
60
80
100
80
60
40
20
0