Worksheet 2

Practical Lab Numerical Computing

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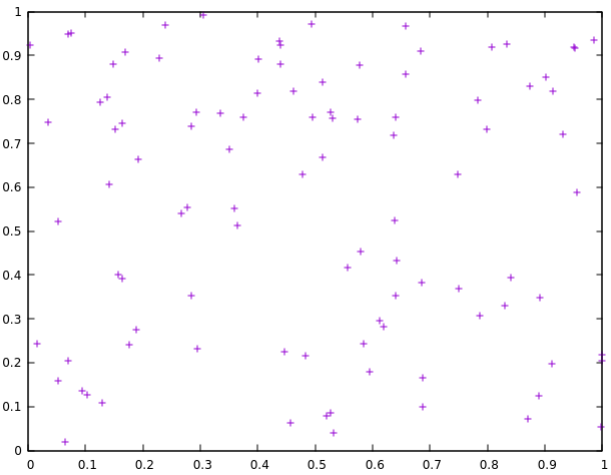
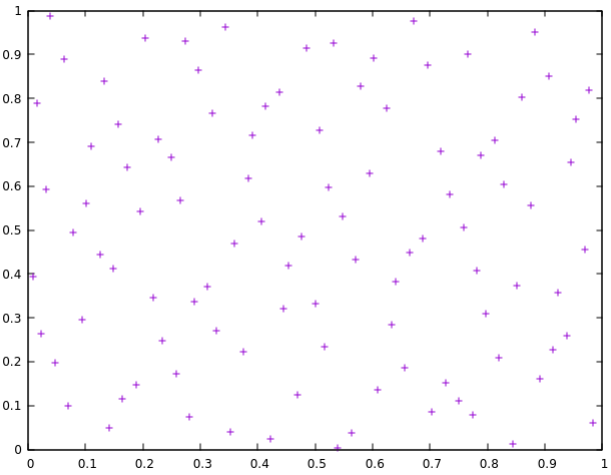
Task 7

Uniform random numbers in $(0, 1)^2$:



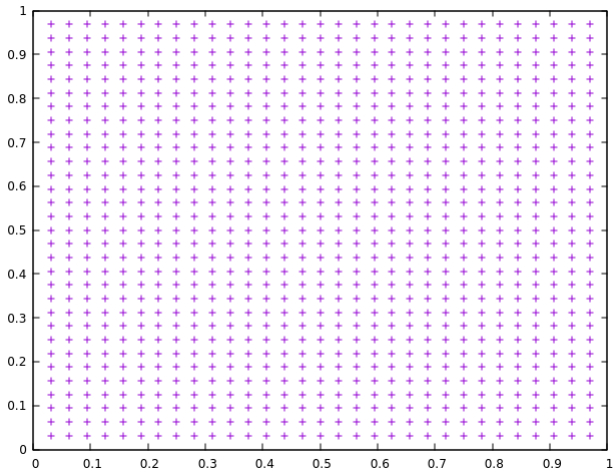
Halton sequence:



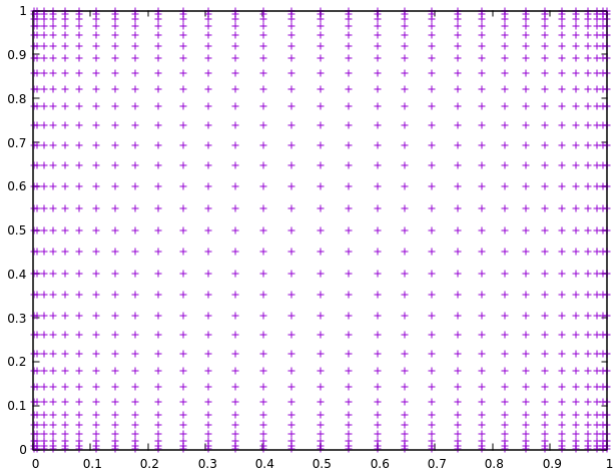
One can see that there are some regions in $(0,1)^2$ where no uniform random numbers are set. This is not the case in the point set calculated by the Halton sequence. The Hatlon sequence gives a very uniform distributed set without any holes.

Task 9

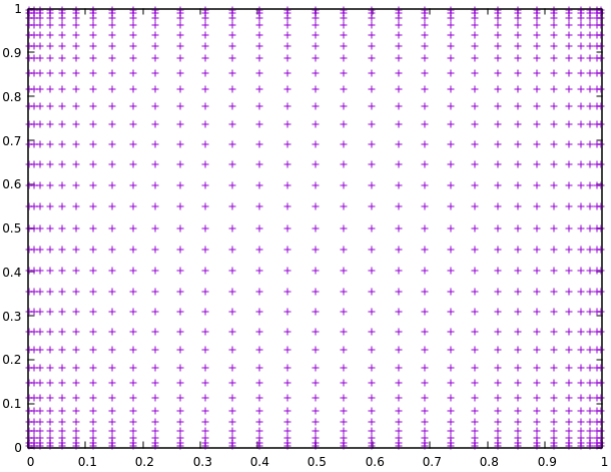
Qudrature nodes of the two-dimensional product rule for trapezoidal rule:



Qudrature nodes of the two-dimensional product rule for Gauss-Legendre:



Qudrature nodes of the two-dimensional product rule for Clenshaw Curtis:


1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1