Calculation of π by Monte-Carlo algorithm

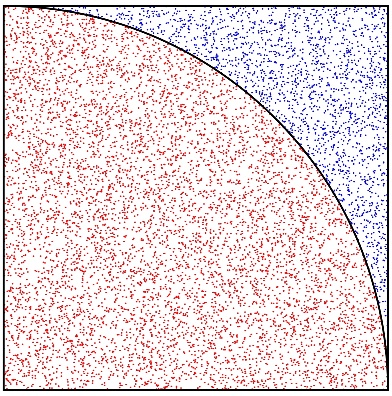
$n = 10000$

$= \mathbf{random}(\mathbf{fill}(\mathbf{vector}_{\mathrm{hp}}(n);1)) = \mathbf{random}(\mathbf{fill}(\mathbf{vector}_{\mathrm{hp}}(10000);1)) = [0.742176\ \ 0.6508581\ \ 0.6605696$
$0.4676931\ \ 0.4043998\ \ 0.07013425\ \ 0.3354955\ \ 0.6740415\ \ 0.1928455\ \ 0.738402\ \ 0.2264924\ \ 0.9583731\ \ 0.7860559$
$0.8423899\ \ 0.682569\ \ 0.4437863\ \ 0.6225958\ \ 0.6052215\ \ 0.464681\ \ 0.9610078\ \ \ldots\ \ 0.008128978]$

$= \mathbf{random}(\mathbf{fill}(\mathbf{Vector}_{\mathrm{hp}}(n);1)) = \mathbf{random}(\mathbf{fill}(\mathbf{Vector}_{\mathrm{hp}}(10000);1)) = [0.252411\ \ 0.6218393\ \ 0.9869916$
$0.7059767\ \ 0.3959453\ \ 0.7679354\ \ 0.9081831\ \ 0.7795125\ \ 0.6866257\ \ 0.777726\ \ 0.9668872\ \ 0.513738\ \ 0.9697231$
$0.2164705\ \ 0.6545053\ \ 0.03312811\ \ 0.07900223\ \ 0.7108383\ \ 0.1505013\ \ 0.8923924\ \ \ldots\ \ 0.4678099]$

$= \sqrt{x^{\odot 2} + y^{\odot 2}} = [0.7839238\ \ 0.9001668\ \ 1.187647\ \ 0.8468412\ \ 0.565961\ \ 0.7711313\ \ 0.9681703\ \ 1.03052$
$0.713193\ \ 1.072425\ \ 0.9930607\ \ 1.087385\ \ 1.248298\ \ 0.8697587\ \ 0.9456626\ \ 0.4450211\ \ 0.6275882\ \ 0.9335867$
$0.4884456\ \ 1.31145\ \ \ldots\ \ 0.4678806]$

$n_{\mathrm{in}} = \mathbf{count}(\mathbf{floor}(r);0;1) = 7897$, $PI = \dfrac{4 \cdot n_{\mathrm{in}}}{n} = \dfrac{4 \cdot 7897}{10000} = 3.1588$



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