Impulse testing of filters & convolution





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| --- | --- | --- | --- | --- |
| n | y(n) | x(n) | x(n-1) | y(n-1) |
| 0 | 1 | 1 | 0 | 0 |
| 1 | 1.5 | 0 | 1 | 1 |
| 2 | 0.75 | 0 | 0 | 1.5 |
| 3 | 0.375 | 0 | 0 | 0.75 |
| 4 | 0.1875 | 0 | 0 | 0.375 |
| 5 | 0.09375 | 0 | 0 | 0.1875 |
| 6 | 0.046875 | 0 | 0 | 0.09375 |
| 7 | 0.023438 | 0 | 0 | 0.046875 |
| 8 | 0.011719 | 0 | 0 | 0.023438 |





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| --- | --- | --- | --- | --- |
| n | y(n) | x(n) | x(n-1) | y(n-1) |
| 0 | 1 | 1 | 0 | 0 |
| 1 | 3.5 | 2 | 1 | 1 |
| 2 | 4.75 | 1 | 2 | 3.5 |
| 3 | 3.375 | 0 | 1 | 4.75 |
| 4 | 1.6875 | 0 | 0 | 3.375 |
| 5 | 0.84375 | 0 | 0 | 1.6875 |
| 6 | 0.421875 | 0 | 0 | 0.84375 |
| 7 | 0.210938 | 0 | 0 | 0.421875 |
| 8 | 0.105469 | 0 | 0 | 0.210938 |
|  |  |  |  |  |





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| --- | --- | --- | --- | --- | --- |
| n | y(n) | x(n) | x(n-1) | y(n-1) | y(n-2) |
| 0 | 1 | 1 | 0 | 0 | 0 |
| 1 | 3.5 | 2 | 1 | 1 | 0 |
| 2 | 5 | 1 | 2 | 3.5 | 1 |
| 3 | 4.375 | 0 | 1 | 5 | 3.5 |
| 4 | 3.4375 | 0 | 0 | 4.375 | 5 |
| 5 | 2.8125 | 0 | 0 | 3.4375 | 4.375 |
| 6 | 2.265625 | 0 | 0 | 2.8125 | 3.4375 |
| 7 | 1.835938 | 0 | 0 | 2.265625 | 2.8125 |
| 8 | 1.484375 | 0 | 0 | 1.835938 | 2.265625 |
|  |  |  |  |  |  |