**Usable Characters**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | , | . | ? | ! | @ | # | $ | % | & | \_ | ( | ) |

**One-Time Pad**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | , | # | G | ! | J | ! | Q | F | W | Y | H | I | N | B | T | ) | ( | V | G | C | \_ | 8 | K | Q | Y | Q | R | 1 | 4 | 4 | 5 | 8 | Y | H | % | ) | U | I | 3 | R | F | T | ( | N | J | C | 5 |
| P | U | 7 | ) | 1 | M | ? | P | U | S | X | B | W | S | ( | 5 | 4 | 5 | ( | V | . | % | Q | 7 | P | 6 | R | S | S | ) | E | W | Z | & | Y | P | O | U | Q | K | N | 2 | \_ | \_ | R | Y | # | @ |
| 8 | C | 6 | I | @ | ! | 1 | I | 7 | O | & | % | 6 | \_ | K | J | T | E | M | ) | S | Q | 4 | 4 | D | \_ | Q | E | A | U | # | E | K | S | V | 8 | 0 | G | 2 | \_ | P | ) | % | ! | 5 | 3 | . | ? |
| X | % | F | L | ? | D | L | S | 2 | 2 | 9 | 7 | T | ( | R | U | M | A | C | & | \_ | P | \_ | 9 | T | 2 | 5 | X | $ | 2 | ? | E | H | P | 9 | T | E | 2 | & | \_ | D | Z | W | 0 | O | 1 | G | U |
| J | P | M | M | , | S | H | @ | A | 4 | U | & | 1 | 2 | $ | K | P | O | $ | B | K | P | 2 | M | 1 | A | N | A | E | 6 | 0 | P | 5 | . | G | & | K | U | \_ | X | 8 | \_ | $ | J | O | V | % | D |
| T | ) | # | % | P | ) | I | X | @ | 3 | F | C | R | D | , | Z | K | V | 1 | 2 | A | K | 1 | ? | 8 | 0 | Y | H | $ | & | Y | ! | # | \_ | 1 | 2 | Y | A | . | 1 | N | K | P | A | ? | % | ? | M |
| $ | 9 | R | G | 8 | Z | 4 | 1 | # | T | X | 8 | E | . | A | \_ | ( | & | E | T | E | H | ? | ) | 9 | A | % | R | B | W | F | & | I | 4 | F | , | S | F | L | C | ! | 4 | 9 | 5 | # | F | O | H |
| X | A | H | F | V | ? | Z | @ | N | C | Y | B | ! | Y | Z | 2 | ! | T | P | Y | K | V | # | U | O | F | E | 5 | 5 | P | W | 4 | X | W | $ | 7 | H | B | G | S | ) | 6 | O | 2 | 1 | \_ | 7 | Z |
| P | $ | \_ | H | G | 2 | % | ? | K | O | K | 3 | R | # | M | D | @ | K | F | 4 | Z | R | 5 | T | Q | 8 | 7 | O | & | H | N | 1 | . | % | P | & | R | M | T | A | ? | 6 | G | Z | Z | Z | . | L |
| Q | P | O | 1 | Z | , | # | L | J | B | O | O | N | M | F | 8 | # | K | % | X | 6 | 6 | 7 | # | J | U | 1 | 8 | . | 9 | 2 | 6 | # | M | 7 | X | 6 | ? | O | 3 | O | & | 4 | K | 4 | Q | ! | W |
| F | F | ( | M | W | % | ! | X | ? | ? | 3 | L | J | K | M | X | 4 | 8 | T | $ | G | D | , | T | & | S | M | V | X | T | \_ | $ | 4 | 7 | ! | Y | J | ? | A | V | 6 | U | 2 | P | N | 1 | F | O |
| V | H | V | % | K | Z | O | $ | Y | T | ( | O | 2 | U | Y | T | 3 | S | F | Y | \_ | $ | M | $ | J | E | . | G | W | 0 | E | , | \_ | 5 | P | 6 | % | M | @ | Z | 0 | C | Y | 9 | 8 | G | 0 | $ |
| Q | ? | U | 4 | @ | 2 | T | 4 | % | 0 | V | & | D | 6 | @ | Y | O | Q | B | O | S | I | S | 6 | # | . | Q | , | ? | H | @ | 2 | ! | $ | ) | ( | Q | K | L | 6 | Q | K | ! | 3 | C | 5 | @ | Z |
| # | R | 8 | & | K | % | L | I | 1 | U | 9 | % | 5 | ? | R | V | 2 | L | 2 | R | 3 | I | 7 | 3 | K | ! | M | \_ | H | 5 | B | U | B | 6 | 3 | . | 5 | @ | 0 | N | 0 | B | D | B | T | & | O | V |
| ? | & | E | 2 | J | 6 | I | Q | . | U | 1 | ? | ( | 9 | 3 | Q | U | 8 | L | N | X | N | B | V | @ | P | K | % | ? | 5 | & | R | E | & | 8 | ! | $ | W | % | % | L | C | $ | $ | ) | 4 | ? | , |
| G | J | I | H | J | ) | G | F | M | S | O | I | C | J | Y | $ | X | ! | W | C | E | W | \_ | ( | 3 | @ | B | H | O | O | A | 9 | . | 9 | C | K | G | G | B | 8 | 7 | F | P | 8 | \_ | N | ) | I |
| \_ | 1 | U | 0 | M | N | ? | K | 7 | 7 | # | F | R | @ | X | R | B | 0 | D | A | H | 3 | G | % | # | 7 | M | L | P | K | M | @ | B | U | R | N | 5 | T | ) | Z | 7 | 0 | U | 5 | 1 | E | D | . |
| 2 | 4 | ) | O | I | A | O | 9 | O | I | @ | ( | @ | U | 6 | \_ | B | J | ) | Q | 0 | 4 | U | J | C | V | Y | , | A | K | V | % | P | 5 | Y | ) | L | \_ | $ | O | $ | A | S | 0 | . | 7 | N | R |
| . | 9 | E | 4 | O | H | ? | 2 | X | J | ) | C | J | 4 | 4 | % | 3 | 4 | # | Q | R | @ | ? | A | 4 | P | 7 | 2 | , | 2 | P | Z | ! | Q | U | \_ | M | 7 | ! | C | ? | H | ! | 8 | O | G | 1 | X |
| 5 | U | C | ( | $ | ! | , | , | , | U | 3 | @ | A | 6 | 7 | ! | F | $ | U | ) | T | U | A | F | . | 2 | N | T | 8 | 6 | Z | P | 1 | H | . | 3 | D | T | ? | G | ( | U | S | B | % | N | ( | J |
| T | D | P | ? | 3 | ) | & | C | 4 | B | ? | 1 | J | T | D | F | @ | 9 | U | 3 | P | T | A | 7 | D | F | U | # | H | S | 2 | 1 | K | . | G | G | % | . | U | G | U | W | 8 | @ | % | ( | R | L |
| X | U | , | S | 4 | W | C | # | K | ) | H | J | % | 6 | A | M | N | Q | ( | \_ | \_ | U | \_ | 3 | % | # | V | 0 | $ | ! | 4 | 4 | Y | # | # | 8 | H | $ | ? | ! | 6 | G | 3 | 1 | Z | # | V | H |
| P | O | A | O | & | 0 | C | D | % | C | U | M | # | C | Y | M | X | 1 | C | F | E | ? | U | X | 2 | H | 0 | G | 0 | 1 | 2 | N | O | U | 3 | 0 | G | . | B | 6 | S | V | ( | % | L | . | Q | ! |
| J | D | 6 | @ | N | \_ | F | 1 | 8 | Q | O | K | L | @ | ) | ! | ? | 4 | $ | , | ) | K | I | ? | C | O | T | , | O | 6 | F | X | K | ( | ! | B | @ | % | I | P | \_ | Q | ) | . | 4 | 5 | T | L |
| 6 | R | , | T | H | Q | ? | M | ? | Z | 4 | N | ( | A | B | O | N | Q | ? | # | ! | 9 | W | J | ? | C | $ | . | B | & | Q | U | ! | ? | W | ) | ? | K | , | F | ( | 6 | S | L | \_ | K | ! | Y |
| H | C | C | D | V | 3 | S | X | ( | 7 | F | \_ | 9 | , | D | . | ( | G | & | & | L | O | 5 | . | . | 6 | U | U | D | Y | \_ | K | D | 7 | 0 | @ | . | 4 | % | G | F | F | . | L | G | F | K | . |
| F | 1 | & | 0 | X | N | % | W | ( | D | 6 | 1 | R | @ | R | ) | O | 1 | L | X | 4 | H | J | S | ( | L | O | U | G | ? | C | 2 | 2 | . | T | ( | ) | . | % | \_ | E | A | 9 | 1 | Q | N | \_ | M |
| $ | X | B | 1 | \_ | I | & | ! | T | V | V | X | 4 | & | @ | 1 | G | 5 | Q | J | 5 | N | 6 | 5 | X | W | J | @ | S | A | G | ! | ? | F | Y | ( | 8 | 5 | % | Y | 7 | , | 5 | U | M | 1 | M | U |
| G | T | $ | E | P | 8 | 8 | X | R | 2 | 6 | ) | 6 | 7 | O | 5 | H | 6 | E | D | 6 | J | M | 9 | I | U | B | Q | % | Z | ( | # | 3 | J | % | R | N | 0 | Q | 4 | J | 6 | V | # | U | 9 | 7 | 3 |
| C | 6 | 4 | \_ | Y | ! | % | L | & | Q | Q | $ | 1 | X | & | 5 | $ | 2 | B | C | @ | I | Z | @ | % | C | % | D | A | O | R | X | $ | B | U | U | 0 | & | 0 | ? | B | G | G | 8 | 8 | C | M | R |
| H | D | 0 | A | X | G | # | T | P | 5 | $ | G | 7 | A | R | B | # | Y | ( | $ | Q | 4 | \_ | P | H | 9 | # | T | Q | Z | ( | T | . | G | K | I | . | . | 8 | T | F | F | P | H | 0 | 9 | U | T |
| ! | Q | ? | Y | 1 | P | L | \_ | ? | R | ? | E | 9 | N | G | 3 | 9 | & | 8 | 1 | F | 9 | V | Z | V | S | V | & | C | 6 | D | $ | R | V | Z | U | O | 9 | 9 | D | 8 | X | T | M | 2 | P | A | E |
| W | \_ | T | G | F | T | ? | U | M | M | 0 | G | ) | W | $ | Q | $ | K | J | L | & | U | J | E | 3 | 7 | 2 | \_ | 2 | Z | G | & | C | 4 | . | 8 | & | B | H | A | P | ( | O | C | 3 | 3 | C | L |
| U | ! | F | A | I | 5 | ! | Q | U | P | A | Q | L | 5 | @ | ) | ) | O | M | S | . | 6 | # | . | ? | M | W | I | V | & | % | ) | M | & | R | C | R | Y | ) | I | E | O | 7 | ? | 6 | % | Y | H |
| ( | 3 | V | 2 | 5 | ( | ( | J | . | V | 4 | ? | K | ! | 6 | ? | G | 3 | . | C | N | , | $ | , | U | Z | Y | 3 | A | \_ | 9 | 7 | Y | Y | 1 | 7 | 8 | I | 3 | M | A | ? | K | E | G | V | X | G |
| F | 0 | 9 | ) | 2 | % | S | O | 0 | @ | F | @ | ) | N | 5 | 7 | ) | X | 1 | 9 | ) | F | Y | 2 | D | X | N | $ | & | 5 | 2 | X | . | . | B | 8 | 6 | 2 | C | L | L | U | A | M | 9 | L | ) | M |
| Q | E | X | T | J | N | R | A | M | Z | & | A | H | S | % | 9 | M | 4 | . | 5 | C | G | Z | I | W | @ | 5 | Y | A | O | Z | P | 0 | @ | Q | ? | G | B | Q | \_ | 8 | @ | . | O | 5 | I | ) | 3 |
| 9 | O | 4 | U | 3 | 0 | Y | 4 | P | E | 8 | D | O | 3 | 1 | 5 | 0 | K | 2 | 3 | , | 5 | $ | . | , | N | & | ? | 7 | C | J | 6 | , | I | 1 | V | U | M | ) | 0 | A | ) | 2 | R | Z | \_ | ) | 6 |
| 1 | ? | G | 5 | E | S | Z | H | 1 | N | 3 | 4 | P | , | @ | 4 | U | 4 | % | W | F | 7 | K | L | % | V | F | W | # | T | , | J | J | P | D | W | ? | 0 | , | D | 3 | 3 | L | 7 | H | 2 | L | ? |
| M | M | . | M | \_ | \_ | W | W | M | G | . | \_ | 1 | L | L | 2 | 1 | 4 | D | F | L | M | 9 | ? | D | Q | M | % | 2 | H | ? | P | E | 4 | ( | & | H | % | L | H | 5 | U | D | F | R | . | 7 | Z |
| X | 8 | 8 | H | # | N | 6 | N | . | H | A | T | 5 | 6 | 5 | P | J | 3 | C | V | Z | R | 0 | A | G | 6 | W | V | F | L | 1 | 8 | U | 2 | Y | M | Q | ! | I | K | ( | 7 | E | , | S | 8 | N | 0 |
| 3 | P | U | $ | D | & | V | J | P | 6 | V | @ | R | \_ | M | 3 | D | \_ | V | V | $ | 5 | W | 9 | F | H | 8 | X | % | W | 8 | 1 | H | & | 4 | 5 | H | P | @ | D | 6 | ! | C | V | J | 1 | K | ( |
| ? | C | # | S | \_ | # | F | ! | $ | G | Y | # | D | 8 | . | U | # | @ | A | 8 | W | L | E | # | O | O | C | 7 | V | ? | Y | 3 | H | 9 | G | 5 | 9 | A | L | Q | X | J | R | ) | 3 | S | E | Y |
| F | P | H | 2 | ) | ! | C | T | T | 6 | & | ! | O | E | L | 3 | I | P | C | O | E | P | A | , | Q | M | 8 | O | 2 | G | V | ( | . | $ | J | E | Y | O | G | O | 4 | D | % | F | % | I | A | U |
| . | F | 6 | $ | 2 | ( | % | 7 | X | X | ( | I | X | J | 4 | T | X | & | H | ( | 6 | \_ | P | B | X | J | D | % | G | B | 6 | & | ) | Y | W | K | Q | 6 | G | N | C | X | 7 | P | 5 | V | . | $ |
| Z | 5 | 7 | % | 3 | 9 | U | G | U | X | Z | X | Q | E | J | . | H | D | Z | E | B | Q | N | ? | T | Q | 4 | M | F | ? | B | # | # | ( | ) | W | % | B | I | ? | 5 | 6 | , | T | 7 | % | # | $ |
| & | C | D | 2 | 8 | 4 | E | N | P | 7 | T | Y | E | 8 | ! | F | 0 | \_ | 2 | U | 2 | 7 | B | 5 | \_ | T | F | T | C | . | K | V | A | C | S | 4 | 0 | N | A | L | X | F | U | ( | 6 | E | 2 | 7 |
| @ | L | ) | . | @ | % | 6 | @ | E | N | ? | $ | R | B | E | ! | ) | P | # | 9 | H | T | W | ) | D | O | A | P | V | $ | C | G | B | B | W | P | S | K | U | 9 | $ | # | U | . | 6 | Z | ( | J |