

## FREQUENCY DISTRIBUTION OF DIGRAPHS

Frequency distribution of digraphs based on 50000 letters of government plaintext telegrams (reduced to 5000 digraphs)

| First Letter | Second Letter |   |    |    |    |    |    |    |    |   |    |    |     |    |    |    |    |    |    |    |    |    |    |    |   |   |
|--------------|---------------|---|----|----|----|----|----|----|----|---|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|---|---|
|              | 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 |
| A            | 3             | 6 | 14 | 27 | 1  | 4  | 6  | 2  | 17 | 1 | 2  | 32 | 14  | 64 | 2  | 12 | 44 | 41 | 47 | 13 | 7  | 3  | 12 |    |   |   |
| B            | 4             |   |    | 18 |    |    |    | 2  | 1  |   | 6  | 1  |     | 4  |    |    | 2  | 1  | 1  |    | 2  |    |    | 7  |   |   |
| C            | 20            | 3 | 1  | 32 |    | 1  | 14 | 7  |    | 4 | 5  | 1  | 1   | 41 |    |    | 4  | 1  | 14 | 4  |    | 1  |    | 1  |   |   |
| D            | 32            | 4 | 4  | 8  | 33 | 8  | 2  | 2  | 27 | 1 | 3  | 5  | 4   | 16 | 5  | 2  | 12 | 13 | 15 | 5  | 3  | 4  | 1  |    |   |   |
| E            | 35            | 4 | 32 | 60 | 42 | 18 | 4  | 7  | 27 | 1 | 29 | 14 | 111 | 12 | 20 | 12 | 87 | 54 | 37 | 3  | 20 | 7  | 7  | 4  | 1 |   |
| F            | 5             | 2 | 1  | 10 |    | 11 | 1  |    | 39 |   | 2  | 1  |     | 40 | 1  | 9  | 3  | 11 |    | 3  |    | 1  |    | 1  |   |   |
| G            | 7             | 2 | 1  | 14 |    | 2  | 1  | 20 | 5  | 1 | 2  | 1  | 3   | 6  | 2  |    | 5  | 3  | 4  | 2  |    | 1  |    |    |   |   |
| H            | 20            | 1 | 3  | 2  | 20 | 5  |    |    | 33 |   | 1  | 2  | 3   | 20 | 1  | 1  | 17 | 4  | 28 | 8  |    | 1  |    | 1  |   |   |
| I            | 8             | 2 | 22 | 6  | 13 | 10 | 19 |    |    |   | 2  | 23 | 9   | 75 | 41 | 7  | 27 | 35 | 27 |    | 25 |    | 15 |    | 2 |   |
| J            | 1             |   | 2  |    |    |    |    |    |    |   |    |    |     | 2  |    |    |    |    |    | 2  |    |    |    |    |   |   |
| K            | 1             | 1 |    | 6  |    |    |    | 2  |    |   | 1  |    | 1   |    |    |    |    | 1  |    |    |    |    |    |    |   |   |
| L            | 28            | 3 | 3  | 9  | 37 | 3  | 1  | 1  | 20 |   | 27 | 2  | 1   | 13 | 3  | 2  | 6  | 8  |    | 2  | 2  | 2  |    | 10 |   |   |
| M            | 36            | 6 | 3  | 1  | 26 | 1  |    | 1  | 9  |   |    | 13 |     | 10 | 8  | 2  | 4  | 2  |    | 2  |    |    |    | 2  |   |   |
| N            | 26            | 2 | 19 | 52 | 57 | 9  | 27 | 4  | 30 | 1 | 2  | 5  | 5   | 8  | 18 | 3  | 1  | 4  | 24 | 82 | 7  | 3  | 3  | 5  |   |   |
| O            | 7             | 4 | 8  | 12 | 3  | 25 | 2  | 3  | 5  | 1 | 2  | 19 | 25  | 77 | 6  | 25 | 64 | 14 | 19 | 37 | 7  | 8  | 1  | 2  |   |   |
| P            | 14            | 1 | 1  | 1  | 23 | 2  |    | 3  | 6  |   | 13 | 4  | 1   | 17 | 11 | 18 | 6  | 8  |    | 3  | 1  | 1  |    | 1  |   |   |
| Q            |               |   |    |    |    |    |    |    |    |   |    |    | 1   |    |    |    | 1  |    |    |    | 15 |    |    |    |   |   |
| R            | 39            | 2 | 9  | 17 | 98 | 6  | 7  | 3  | 30 | 1 | 1  | 5  | 9   | 7  | 28 | 13 | 11 | 31 | 42 | 5  | 5  | 4  | 9  |    |   |   |
| S            | 24            | 3 | 13 | 5  | 49 | 12 | 2  | 26 | 34 |   | 1  | 2  | 3   | 4  | 15 | 10 | 5  | 19 | 63 | 11 | 1  | 4  | 1  |    |   |   |
| T            | 28            | 3 | 6  | 6  | 71 | 7  | 1  | 78 | 45 |   | 5  | 6  | 7   | 50 | 2  | 1  | 17 | 19 | 19 | 5  | 36 | 41 | 1  |    |   |   |
| U            | 5             | 3 | 3  | 3  | 11 | 1  | 8  |    | 5  |   | 6  | 5  | 21  | 1  | 2  | 31 | 12 | 12 |    | 1  |    |    |    |    |   |   |
| V            | 6             |   |    | 57 |    |    |    | 12 |    |   |    |    |     | 1  |    |    |    |    | 1  |    |    |    |    |    |   |   |
| W            | 12            |   |    | 22 |    |    |    | 4  | 13 |   | 1  |    | 2   | 19 |    |    | 1  | 1  |    |    |    |    |    |    | 1 |   |
| X            | 2             |   | 2  | 1  | 1  | 1  |    | 1  | 2  |   |    |    | 1   | 1  | 2  |    | 1  | 1  | 7  |    |    |    |    |    |   |   |
| Y            | 6             | 2 | 4  | 4  | 9  | 11 | 1  | 1  | 3  |   | 2  | 2  | 6   | 10 | 3  | 4  | 11 | 15 |    | 1  |    | 1  |    |    |   |   |
| Z            | 1             |   |    | 2  |    |    |    | 1  |    |   |    |    |     |    |    |    |    |    |    |    |    |    |    |    |   |   |