**ASCII control code chart**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Binary** | **Octal** | **Decimal** | **Hexadecimal** | **Abbreviation** | **Print form**[**[a]**](https://en.wikipedia.org/wiki/ASCII#cite_note-37) | [**Caret notation**](https://en.wikipedia.org/wiki/Caret_notation)[**[b]**](https://en.wikipedia.org/wiki/ASCII#cite_note-38) | **Escape code**[**[c]**](https://en.wikipedia.org/wiki/ASCII#cite_note-39) | **Name** |
| 000 0000 | 000 | 0 | 00 | NUL | ␀ | [^@](https://en.wikipedia.org/wiki/%5E@) | [\0](https://en.wikipedia.org/wiki/%5C0) | [Null character](https://en.wikipedia.org/wiki/Null_character) |
| 000 0001 | 001 | 1 | 01 | SOH | ␁ | [^A](https://en.wikipedia.org/wiki/%5EA) |  | [Start of Header](https://en.wikipedia.org/wiki/Start-of-Header) |
| 000 0010 | 002 | 2 | 02 | STX | ␂ | [^B](https://en.wikipedia.org/wiki/%5EB) |  | [Start of Text](https://en.wikipedia.org/wiki/Start_Of_Text) |
| 000 0011 | 003 | 3 | 03 | ETX | ␃ | [^C](https://en.wikipedia.org/wiki/%5EC) |  | [End of Text](https://en.wikipedia.org/wiki/End-of-text_character) |
| 000 0100 | 004 | 4 | 04 | EOT | ␄ | [^D](https://en.wikipedia.org/wiki/%5ED) |  | [End of Transmission](https://en.wikipedia.org/wiki/End-of-transmission_character) |
| 000 0101 | 005 | 5 | 05 | ENQ | ␅ | [^E](https://en.wikipedia.org/wiki/%5EE) |  | [Enquiry](https://en.wikipedia.org/wiki/Enquiry_character) |
| 000 0110 | 006 | 6 | 06 | ACK | ␆ | [^F](https://en.wikipedia.org/wiki/%5EF) |  | [Acknowledgment](https://en.wikipedia.org/wiki/Acknowledge_character) |
| 000 0111 | 007 | 7 | 07 | BEL | ␇ | [^G](https://en.wikipedia.org/wiki/%5EG) | [\a](https://en.wikipedia.org/wiki/%5Ca) | [Bell](https://en.wikipedia.org/wiki/Bell_character) |
| 000 1000 | 010 | 8 | 08 | BS | ␈ | [^H](https://en.wikipedia.org/wiki/%5EH) | [\b](https://en.wikipedia.org/wiki/Backspace) | [Backspace](https://en.wikipedia.org/wiki/Backspace)[[d]](https://en.wikipedia.org/wiki/ASCII#cite_note-40)[[e]](https://en.wikipedia.org/wiki/ASCII#cite_note-bsp_del_mismatch-41) |
| 000 1001 | 011 | 9 | 09 | HT | ␉ | [^I](https://en.wikipedia.org/wiki/%5EI) | [\t](https://en.wikipedia.org/wiki/%5Ct) | [Horizontal Tab](https://en.wikipedia.org/wiki/Horizontal_Tab)[[f]](https://en.wikipedia.org/wiki/ASCII#cite_note-42) |
| 000 1010 | 012 | 10 | 0A | LF | ␊ | [^J](https://en.wikipedia.org/wiki/%5EJ) | [\n](https://en.wikipedia.org/wiki/%5Cn) | [Line feed](https://en.wikipedia.org/wiki/Line_feed) |
| 000 1011 | 013 | 11 | 0B | VT | ␋ | [^K](https://en.wikipedia.org/wiki/%5EK) | [\v](https://en.wikipedia.org/wiki/%5Cv) | [Vertical Tab](https://en.wikipedia.org/wiki/Vertical_Tab) |
| 000 1100 | 014 | 12 | 0C | FF | ␌ | [^L](https://en.wikipedia.org/wiki/%5EL) | [\f](https://en.wikipedia.org/wiki/%5Cf) | [Form feed](https://en.wikipedia.org/wiki/Form_feed) |
| 000 1101 | 015 | 13 | 0D | CR | ␍ | [^M](https://en.wikipedia.org/wiki/%5EM) | [\r](https://en.wikipedia.org/wiki/%5Cr) | [Carriage return](https://en.wikipedia.org/wiki/Carriage_return)[[g]](https://en.wikipedia.org/wiki/ASCII#cite_note-43) |
| 000 1110 | 016 | 14 | 0E | SO | ␎ | [^N](https://en.wikipedia.org/wiki/%5EN) |  | [Shift Out](https://en.wikipedia.org/wiki/Shift_Out_and_Shift_In_characters) |
| 000 1111 | 017 | 15 | 0F | SI | ␏ | [^O](https://en.wikipedia.org/wiki/%5EO) |  | [Shift In](https://en.wikipedia.org/wiki/Shift_Out_and_Shift_In_characters) |
| 001 0000 | 020 | 16 | 10 | DLE | ␐ | [^P](https://en.wikipedia.org/wiki/%5EP) |  | [Data Link Escape](https://en.wikipedia.org/wiki/Data_Link_Escape) |
| 001 0001 | 021 | 17 | 11 | DC1 | ␑ | [^Q](https://en.wikipedia.org/wiki/%5EQ) |  | [Device Control 1](https://en.wikipedia.org/wiki/Device_Control_1) (oft. [XON](https://en.wikipedia.org/wiki/XON)) |
| 001 0010 | 022 | 18 | 12 | DC2 | ␒ | [^R](https://en.wikipedia.org/wiki/%5ER) |  | Device Control 2 |
| 001 0011 | 023 | 19 | 13 | DC3 | ␓ | [^S](https://en.wikipedia.org/wiki/%5ES) |  | Device Control 3 (oft. [XOFF](https://en.wikipedia.org/wiki/XOFF)) |
| 001 0100 | 024 | 20 | 14 | DC4 | ␔ | [^T](https://en.wikipedia.org/wiki/%5ET) |  | Device Control 4 |
| 001 0101 | 025 | 21 | 15 | NAK | ␕ | [^U](https://en.wikipedia.org/wiki/%5EU) |  | [Negative Acknowledgment](https://en.wikipedia.org/wiki/Negative-acknowledge_character) |
| 001 0110 | 026 | 22 | 16 | SYN | ␖ | [^V](https://en.wikipedia.org/wiki/%5EV) |  | [Synchronous idle](https://en.wikipedia.org/wiki/Synchronous_idle) |
| 001 0111 | 027 | 23 | 17 | ETB | ␗ | [^W](https://en.wikipedia.org/wiki/%5EW) |  | [End of Transmission Block](https://en.wikipedia.org/wiki/End_Transmission_Block_character) |
| 001 1000 | 030 | 24 | 18 | CAN | ␘ | [^X](https://en.wikipedia.org/wiki/%5EX) |  | [Cancel](https://en.wikipedia.org/wiki/Cancel_character) |
| 001 1001 | 031 | 25 | 19 | EM | ␙ | [^Y](https://en.wikipedia.org/wiki/%5EY) |  | [End of Medium](https://en.wikipedia.org/wiki/End_of_Medium) |
| 001 1010 | 032 | 26 | 1A | SUB | ␚ | [^Z](https://en.wikipedia.org/wiki/%5EZ) |  | [Substitute](https://en.wikipedia.org/wiki/Substitute_character) |
| 001 1011 | 033 | 27 | 1B | ESC | ␛ | ^[ | [\e](https://en.wikipedia.org/wiki/%5Ce)[[h]](https://en.wikipedia.org/wiki/ASCII#cite_note-44) | [Escape](https://en.wikipedia.org/wiki/Escape_character)[[i]](https://en.wikipedia.org/wiki/ASCII#cite_note-45) |
| 001 1100 | 034 | 28 | 1C | FS | ␜ | [^\](https://en.wikipedia.org/wiki/%5E%5C) |  | [File Separator](https://en.wikipedia.org/wiki/File_separator) |
| 001 1101 | 035 | 29 | 1D | GS | ␝ | ^] |  | [Group Separator](https://en.wikipedia.org/wiki/Group_separator) |
| 001 1110 | 036 | 30 | 1E | RS | ␞ | ^^[[j]](https://en.wikipedia.org/wiki/ASCII#cite_note-46) |  | [Record Separator](https://en.wikipedia.org/wiki/Record_separator) |
| 001 1111 | 037 | 31 | 1F | US | ␟ | ^\_ |  | [Unit Separator](https://en.wikipedia.org/wiki/Unit_separator) |
|  | | | | | | | | |
| 111 1111 | 177 | 127 | 7F | DEL | ␡ | [^?](https://en.wikipedia.org/wiki/%5E%3F) |  | [Delete](https://en.wikipedia.org/wiki/Delete_character)[[k]](https://en.wikipedia.org/wiki/ASCII#cite_note-47)[[e]](https://en.wikipedia.org/wiki/ASCII#cite_note-bsp_del_mismatch-41) |

**ASCII printable code chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Binary** | **Oct** | **Dec** | **Hex** | **Glyph** | | 010 0000 | 040 | 32 | 20 | ([space](https://en.wikipedia.org/wiki/Space_%28punctuation%29)) | | 010 0001 | 041 | 33 | 21 | [!](https://en.wikipedia.org/wiki/Exclamation_mark) | | 010 0010 | 042 | 34 | 22 | ["](https://en.wikipedia.org/wiki/Quotation_mark) | | 010 0011 | 043 | 35 | 23 | [#](https://en.wikipedia.org/wiki/Number_sign) | | 010 0100 | 044 | 36 | 24 | [$](https://en.wikipedia.org/wiki/Dollar_sign) | | 010 0101 | 045 | 37 | 25 | [%](https://en.wikipedia.org/wiki/Percent_sign) | | 010 0110 | 046 | 38 | 26 | [&](https://en.wikipedia.org/wiki/Ampersand) | | 010 0111 | 047 | 39 | 27 | ['](https://en.wikipedia.org/wiki/Apostrophe) | | 010 1000 | 050 | 40 | 28 | [(](https://en.wikipedia.org/wiki/Parentheses) | | 010 1001 | 051 | 41 | 29 | [)](https://en.wikipedia.org/wiki/Parentheses) | | 010 1010 | 052 | 42 | 2A | [\*](https://en.wikipedia.org/wiki/Asterisk) | | 010 1011 | 053 | 43 | 2B | [+](https://en.wikipedia.org/wiki/Plus_sign) | | 010 1100 | 054 | 44 | 2C | [,](https://en.wikipedia.org/wiki/Comma) | | 010 1101 | 055 | 45 | 2D | [-](https://en.wikipedia.org/wiki/Hyphen-minus) | | 010 1110 | 056 | 46 | 2E | [.](https://en.wikipedia.org/wiki/Full_stop) | | 010 1111 | 057 | 47 | 2F | [/](https://en.wikipedia.org/wiki/Slash_%28punctuation%29) | | 011 0000 | 060 | 48 | 30 | [0](https://en.wikipedia.org/wiki/0_%28number%29) | | 011 0001 | 061 | 49 | 31 | [1](https://en.wikipedia.org/wiki/1_%28number%29) | | 011 0010 | 062 | 50 | 32 | [2](https://en.wikipedia.org/wiki/2_%28number%29) | | 011 0011 | 063 | 51 | 33 | [3](https://en.wikipedia.org/wiki/3_%28number%29) | | 011 0100 | 064 | 52 | 34 | [4](https://en.wikipedia.org/wiki/4_%28number%29) | | 011 0101 | 065 | 53 | 35 | [5](https://en.wikipedia.org/wiki/5_%28number%29) | | 011 0110 | 066 | 54 | 36 | [6](https://en.wikipedia.org/wiki/6_%28number%29) | | 011 0111 | 067 | 55 | 37 | [7](https://en.wikipedia.org/wiki/7_%28number%29) | | 011 1000 | 070 | 56 | 38 | [8](https://en.wikipedia.org/wiki/8_%28number%29) | | 011 1001 | 071 | 57 | 39 | [9](https://en.wikipedia.org/wiki/9_%28number%29) | | 011 1010 | 072 | 58 | 3A | [:](https://en.wikipedia.org/wiki/Colon_%28punctuation%29) | | 011 1011 | 073 | 59 | 3B | [;](https://en.wikipedia.org/wiki/Semicolon) | | 011 1100 | 074 | 60 | 3C | [<](https://en.wikipedia.org/wiki/Less-than_sign) | | 011 1101 | 075 | 61 | 3D | [=](https://en.wikipedia.org/wiki/Equals_sign) | | 011 1110 | 076 | 62 | 3E | [>](https://en.wikipedia.org/wiki/Greater-than_sign) | | 011 1111 | 077 | 63 | 3F | [?](https://en.wikipedia.org/wiki/Question_mark) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Binary** | **Oct** | **Dec** | **Hex** | **Glyph** | | 100 0000 | 100 | 64 | 40 | [@](https://en.wikipedia.org/wiki/At_sign) | | 100 0001 | 101 | 65 | 41 | [A](https://en.wikipedia.org/wiki/A) | | 100 0010 | 102 | 66 | 42 | [B](https://en.wikipedia.org/wiki/B) | | 100 0011 | 103 | 67 | 43 | [C](https://en.wikipedia.org/wiki/C) | | 100 0100 | 104 | 68 | 44 | [D](https://en.wikipedia.org/wiki/D) | | 100 0101 | 105 | 69 | 45 | [E](https://en.wikipedia.org/wiki/E) | | 100 0110 | 106 | 70 | 46 | [F](https://en.wikipedia.org/wiki/F) | | 100 0111 | 107 | 71 | 47 | [G](https://en.wikipedia.org/wiki/G) | | 100 1000 | 110 | 72 | 48 | [H](https://en.wikipedia.org/wiki/H) | | 100 1001 | 111 | 73 | 49 | [I](https://en.wikipedia.org/wiki/I) | | 100 1010 | 112 | 74 | 4A | [J](https://en.wikipedia.org/wiki/J) | | 100 1011 | 113 | 75 | 4B | [K](https://en.wikipedia.org/wiki/K) | | 100 1100 | 114 | 76 | 4C | [L](https://en.wikipedia.org/wiki/L) | | 100 1101 | 115 | 77 | 4D | [M](https://en.wikipedia.org/wiki/M) | | 100 1110 | 116 | 78 | 4E | [N](https://en.wikipedia.org/wiki/N) | | 100 1111 | 117 | 79 | 4F | [O](https://en.wikipedia.org/wiki/O) | | 101 0000 | 120 | 80 | 50 | [P](https://en.wikipedia.org/wiki/P) | | 101 0001 | 121 | 81 | 51 | [Q](https://en.wikipedia.org/wiki/Q) | | 101 0010 | 122 | 82 | 52 | [R](https://en.wikipedia.org/wiki/R) | | 101 0011 | 123 | 83 | 53 | [S](https://en.wikipedia.org/wiki/S) | | 101 0100 | 124 | 84 | 54 | [T](https://en.wikipedia.org/wiki/T) | | 101 0101 | 125 | 85 | 55 | [U](https://en.wikipedia.org/wiki/U) | | 101 0110 | 126 | 86 | 56 | [V](https://en.wikipedia.org/wiki/V) | | 101 0111 | 127 | 87 | 57 | [W](https://en.wikipedia.org/wiki/W) | | 101 1000 | 130 | 88 | 58 | [X](https://en.wikipedia.org/wiki/X) | | 101 1001 | 131 | 89 | 59 | [Y](https://en.wikipedia.org/wiki/Y) | | 101 1010 | 132 | 90 | 5A | [Z](https://en.wikipedia.org/wiki/Z) | | 101 1011 | 133 | 91 | 5B | [[](https://en.wikipedia.org/wiki/Square_brackets) | | 101 1100 | 134 | 92 | 5C | [\](https://en.wikipedia.org/wiki/Backslash) | | 101 1101 | 135 | 93 | 5D | []](https://en.wikipedia.org/wiki/Square_brackets) | | 101 1110 | 136 | 94 | 5E | [^](https://en.wikipedia.org/wiki/Caret) | | 101 1111 | 137 | 95 | 5F | [\_](https://en.wikipedia.org/wiki/Underscore) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Binary** | **Oct** | **Dec** | **Hex** | **Glyph** | | 110 0000 | 140 | 96 | 60 | [`](https://en.wikipedia.org/wiki/Grave_accent) | | 110 0001 | 141 | 97 | 61 | [a](https://en.wikipedia.org/wiki/A) | | 110 0010 | 142 | 98 | 62 | [b](https://en.wikipedia.org/wiki/B) | | 110 0011 | 143 | 99 | 63 | [c](https://en.wikipedia.org/wiki/C) | | 110 0100 | 144 | 100 | 64 | [d](https://en.wikipedia.org/wiki/D) | | 110 0101 | 145 | 101 | 65 | [e](https://en.wikipedia.org/wiki/E) | | 110 0110 | 146 | 102 | 66 | [f](https://en.wikipedia.org/wiki/F) | | 110 0111 | 147 | 103 | 67 | [g](https://en.wikipedia.org/wiki/G) | | 110 1000 | 150 | 104 | 68 | [h](https://en.wikipedia.org/wiki/H) | | 110 1001 | 151 | 105 | 69 | [i](https://en.wikipedia.org/wiki/I) | | 110 1010 | 152 | 106 | 6A | [j](https://en.wikipedia.org/wiki/J) | | 110 1011 | 153 | 107 | 6B | [k](https://en.wikipedia.org/wiki/K) | | 110 1100 | 154 | 108 | 6C | [l](https://en.wikipedia.org/wiki/L) | | 110 1101 | 155 | 109 | 6D | [m](https://en.wikipedia.org/wiki/M) | | 110 1110 | 156 | 110 | 6E | [n](https://en.wikipedia.org/wiki/N) | | 110 1111 | 157 | 111 | 6F | [o](https://en.wikipedia.org/wiki/O) | | 111 0000 | 160 | 112 | 70 | [p](https://en.wikipedia.org/wiki/P) | | 111 0001 | 161 | 113 | 71 | [q](https://en.wikipedia.org/wiki/Q) | | 111 0010 | 162 | 114 | 72 | [r](https://en.wikipedia.org/wiki/R) | | 111 0011 | 163 | 115 | 73 | [s](https://en.wikipedia.org/wiki/S) | | 111 0100 | 164 | 116 | 74 | [t](https://en.wikipedia.org/wiki/T) | | 111 0101 | 165 | 117 | 75 | [u](https://en.wikipedia.org/wiki/U) | | 111 0110 | 166 | 118 | 76 | [v](https://en.wikipedia.org/wiki/V) | | 111 0111 | 167 | 119 | 77 | [w](https://en.wikipedia.org/wiki/W) | | 111 1000 | 170 | 120 | 78 | [x](https://en.wikipedia.org/wiki/X) | | 111 1001 | 171 | 121 | 79 | [y](https://en.wikipedia.org/wiki/Y) | | 111 1010 | 172 | 122 | 7A | [z](https://en.wikipedia.org/wiki/Z) | | 111 1011 | 173 | 123 | 7B | [{](https://en.wikipedia.org/wiki/Bracket#Curly_brackets) | | 111 1100 | 174 | 124 | 7C | [|](https://en.wikipedia.org/wiki/Vertical_bar) | | 111 1101 | 175 | 125 | 7D | [}](https://en.wikipedia.org/wiki/Bracket#Curly_brackets) | | 111 1110 | 176 | 126 | 7E | [~](https://en.wikipedia.org/wiki/Tilde) | |

In addition to processing numbers, computer programs need to be able to deal with text. The simplest form of text is a single keyboard character for which Java provides the **char** primitive data type. (More than one character is a “string” of characters and is handled by the **String** class.)

To accommodate the use of languages other than English, the [Universal Character Set](http://unicode.org/) (also called the Unicode) has been developed which can represent 65536 characters.

One of Java's most useful classes specifically deals with strings of characters, or String literals. If an identifier is declared as a **String**, then keyboard characters can be assigned to it as illustrated in the following code segment.

String course = "AP Computer Science";  
String lastName = "Gulliver";  
String phoneNumber = "555-555-5555";  
String symbol = "a";

|  |  |
| --- | --- |
| **Java's seven escape sequences and their corresponding actions** | |
| **Escape Sequence** | **Action** |
| \n | new line |
| \t | tab |
| \” | double quote |
| \’ | single quote |
| \\ | backslash |
| \r | carriage return |
| \f | form feed |