**TUGAS PRAKTIKUM SISTEM OPERASI**

Nama : Alfian pandu

NIM :L200180027

Kelas : A Modul :1

1. ASCII *(American Standard Code for InformationInterchange)*

ASCII adalah standar internasional dalam pengkodean huruf dan simbol yang bersifat universal. Kode ASCII sebenarnya memiliki komposisi bilanga[n biner](https://id.wikipedia.org/wiki/Biner) sebanyak 7 bit. Namun, ASCII disimpan sebagai sandi 8 bit dengan menambakan satu angka 0 sebagai bit significant paling tinggi.

Tabel ASCII

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Desimal** | **Heksadimal** | **Biner** | **Simbol** | **Deskripsi** |
| 0 | 00 | 00000000 | NUL | Null |
| 1 | 01 | 00000001 | SOH | Start of Header |
| 2 | 02 | 00000010 | STX | Start of Text |
| 3 | 03 | 00000011 | ETX | End of Text |
| 4 | 04 | 00000100 | EOT | End of Transmission |
| 5 | 05 | 00000101 | ENQ | Enquiry |
| 6 | 06 | 00000110 | ACK | Acknowledge |
| 7 | 07 | 00000111 | BEL | Bell |
| 8 | 08 | 00001000 | BS | Backspace |
| 9 | 09 | 00001001 | HT | Horizontal Tab |
| 10 | 0A | 00001010 | LF | Line Feed |
| 11 | 0B | 00001011 | VT | Vertical Tab |
| 12 | 0C | 00001100 | FF | Form Feed |
| 13 | 0D | 00001101 | CR | Carriage Return |
| 14 | 0E | 00001110 | SO | Shift Out |
| 15 | 0F | 00001111 | SI | Shift In |
| 16 | 10 | 00010000 | DLE | Data Link Escape |
| 17 | 11 | 00010001 | DC1 | Device Control 1 |
| 18 | 12 | 00010010 | DC2 | Device Control 2 |
| 19 | 13 | 00010011 | DC3 | Device Control 3 |
| 20 | 14 | 00010100 | DC4 | Device Control 4 |
| 21 | 15 | 00010101 | NAK | Negative Acknowledge |
| 22 | 16 | 00010110 | SYN | Synchronize |
| 23 | 17 | 00010111 | ETB | End of Transmission Block |
| 24 | 18 | 00011000 | CAN | Cancel |
| 25 | 19 | 00011001 | EM | End of Medium |
| 26 | 1A | 00011010 | SUB | Substitute |
| 27 | 1B | 00011011 | ESC | Escape |
| 28 | 1C | 00011100 | FS | File Separator |
| 29 | 1D | 00011101 | GS | Group Separator |
| 30 | 1E | 00011110 | RS | Record Separator |
| 31 | 1F | 00011111 | US | Unit Separator |
| 32 | 20 | 00100000 | space | Space |
| 33 | 21 | 00100001 | ! | Exclamation mark |
| 34 | 22 | 00100010 | " | Double quote |
| 35 | 23 | 00100011 | # | Number |
| 36 | 24 | 00100100 | $ | Dollar sign |
| 37 | 25 | 00100101 | % | Percent |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 38 | 26 | 00100110 | & | Ampersand |
| 39 | 27 | 00100111 | ' | Single quote |
| 40 | 28 | 00101000 | ( | Left parenthesis |
| 41 | 29 | 00101001 | ) | Right parenthesis |
| 42 | 2A | 00101010 | \* | Asterisk |
| 43 | 2B | 00101011 | + | Plus |
| 44 | 2C | 00101100 | , | Comma |
| 45 | 2D | 00101101 | - | Minus |
| 46 | 2E | 00101110 | . | Period |
| 47 | 2F | 00101111 | / | Slash |
| 48 | 30 | 00110000 | 0 | Zero |
| 49 | 31 | 00110001 | 1 | One |
| 50 | 32 | 00110010 | 2 | Two |
| 51 | 33 | 00110011 | 3 | Three |
| 52 | 34 | 00110100 | 4 | Four |
| 53 | 35 | 00110101 | 5 | Five |
| 54 | 36 | 00110110 | 6 | Six |
| 55 | 37 | 00110111 | 7 | Seven |
| 56 | 38 | 00111000 | 8 | Eight |
| 57 | 39 | 00111001 | 9 | Nine |
| 58 | 3A | 00111010 | : | Colon |
| 59 | 3B | 00111011 | ; | Semicolon |
| 60 | 3C | 00111100 | < | Less than |
| 61 | 3D | 00111101 | = | Equality sign |
| 62 | 3E | 00111110 | > | Greater than |
| 63 | 3F | 00111111 | ? | Question mark |
| 64 | 40 | 01000000 | @ | At sign |
| 65 | 41 | 01000001 | A | Capital A |
| 66 | 42 | 01000010 | B | Capital B |
| 67 | 43 | 01000011 | C | Capital C |
| 68 | 44 | 01000100 | D | Capital D |
| 69 | 45 | 01000101 | E | Capital E |
| 70 | 46 | 01000110 | F | Capital F |
| 71 | 47 | 01000111 | G | Capital G |
| 72 | 48 | 01001000 | H | Capital H |
| 73 | 49 | 01001001 | I | Capital I |
| 74 | 4A | 01001010 | J | Capital J |
| 75 | 4B | 01001011 | K | Capital K |
| 76 | 4C | 01001100 | L | Capital L |
| 77 | 4D | 01001101 | M | Capital M |
| 78 | 4E | 01001110 | N | Capital N |
| 79 | 4F | 01001111 | O | Capital O |
| 80 | 50 | 01010000 | P | Capital P |
| 81 | 51 | 01010001 | Q | Capital Q |
| 82 | 52 | 01010010 | R | Capital R |
| 83 | 53 | 01010011 | S | Capital S |
| 84 | 54 | 01010100 | T | Capital T |
| 85 | 55 | 01010101 | U | Capital U |
| 86 | 56 | 01010110 | V | Capital V |
| 87 | 57 | 01010111 | W | Capital W |
| 88 | 58 | 01011000 | X | Capital X |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 89 | 59 | 01011001 | Y | Capital Y |
| 90 | 5A | 01011010 | Z | Capital Z |
| 91 | 5B | 01011011 | [ | Left square bracket |
| 92 | 5C | 01011100 | \ | Backslash |
| 93 | 5D | 01011101 | ] | Right square bracket |
| 94 | 5E | 01011110 | ^ | Caret / circumflex |
| 95 | 5F | 01011111 | \_ | Underscore |
| 96 | 60 | 01100000 | ` | Grave / accent |
| 97 | 61 | 01100001 | a | Small a |
| 98 | 62 | 01100010 | b | Small b |
| 99 | 63 | 01100011 | c | Small c |
| 100 | 64 | 01100100 | d | Small d |
| 101 | 65 | 01100101 | e | Small e |
| 102 | 66 | 01100110 | f | Small f |
| 103 | 67 | 01100111 | g | Small g |
| 104 | 68 | 01101000 | h | Small h |
| 105 | 69 | 01101001 | i | Small i |
| 106 | 6A | 01101010 | j | Small j |
| 107 | 6B | 01101011 | k | Small k |
| 108 | 6C | 01101100 | l | Small l |
| 109 | 6D | 01101101 | m | Small m |
| 110 | 6E | 01101110 | n | Small n |
| 111 | 6F | 01101111 | o | Small o |
| 112 | 70 | 01110000 | p | Small p |
| 113 | 71 | 01110001 | q | Small q |
| 114 | 72 | 01110010 | r | Small r |
| 115 | 73 | 01110011 | s | Small s |
| 116 | 74 | 01110100 | t | Small t |
| 117 | 75 | 01110101 | u | Small u |
| 118 | 76 | 01110110 | v | Small v |
| 119 | 77 | 01110111 | w | Small w |
| 120 | 78 | 01111000 | x | Small x |
| 121 | 79 | 01111001 | y | Small y |
| 122 | 7A | 01111010 | z | Small z |
| 123 | 7B | 01111011 | { | Left curly bracket |
| 124 | 7C | 01111100 | | | Vertical bar |
| 125 | 7D | 01111101 | } | Right curly bracket |
| 126 | 7E | 01111110 | ~ | Tilde |
| 127 | 7F | 01111111 | DEL | Delete |

1. Daftar Instruksi BahasaAssembly

|  |  |
| --- | --- |
| **Assembly Directive** | **Keterangan** |
| EQU | Pendefinisian konstanta |
| DB | Pendefinisian data dengan ukuran satuan 1 byte |
| DW | Pendefinisian data dengan ukuran satuan 1 word |
| DBIT | Pendefinisian data dengan ukuran satuan 1 bit |
| DS | Pemesanan tempat penyimpanan data di RAM |
| ORG | Inisialisasi alamat mulai program |
| END | Penanda akhir program |
| CSEG | Penanda penempatan di code segment |
| XSEG | Penanda penempatan di external data segment |
| DSEG | Penanda penempatan di internal direct data segment |
| ISEG | Penanda penempatan di internal indirect data segment |
| BSEG | Penanda penempatan di bit data segment |
| CODE | Penanda mulai pendefinisian program |
| XDATA | Pendefinisian external data |
| DATA | Pendefinisian internal direct data |
| IDATA | Pendefinisian internal indirect data |
| BIT | Pendefinisian data bit |
| #INCLUDE | Mengikutsertakan file program lain |

|  |  |
| --- | --- |
| **Instruksi** | **Keterangan Singkatan** |
| ACALL | Absolute Call |
| ADD | Add |
| ADDC | Add with Carry |
| AJMP | Absolute Jump |
| ANL | AND Logic |
| CJNE | Compare and Jump if Not Equal |
| CLR | Clear |
| CPL | Complement |
| DA | Decimal Adjust |
| DEC | Decrement |
| DIV | Divide |
| DJNZ | Decrement and Jump if Not Zero |
| INC | Increment |
| JB | Jump if Bit Set |

|  |  |
| --- | --- |
| JBC | Jump if Bit Set and Clear Bit |
| JC | Jump if Carry Set |
| JMP | Jump to Address |
| JNB | Jump if Not Bit Set |
| JNC | Jump if Carry Not Set |
| JNZ | Jump if Accumulator Not Zero |
| JZ | Jump if Accumulator Zero |
| LCALL | Long Call |
| LJMP | Long Jump |
| MOV | Move from Memory |
| MOVC | Move from Code Memory |
| MOVX | Move from Extended Memory |
| MUL | Multiply |
| NOP | No Operation |
| ORL | OR Logic |
| POP | Pop Value From Stack |
| PUSH | Push Value Onto Stack |
| RET | Return From Subroutine |
| RETI | Return From Interrupt |
| RL | Rotate Left |
| RLC | Rotate Left through Carry |
| RR | Rotate Right |
| RRC | Rotate Right through Carry |
| SETB | Set Bit |
| SJMP | Short Jump |
| SUBB | Subtract With Borrow |
| SWAP | Swap Nibbles |
| XCH | Exchange Bytes |
| XCHD | Exchange Digits |
| XRL | Exclusive OR Logic |