**TUGAS**

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MATKUL : PRAKTIKUM SISTEM OPERASI**

1. Apa yang dimaksud dengan kode ‘ASCII’?

ASCII adalah singkatan dari (American Standard Code for Information Interchange) yang merupakan sebuah standar yang digunakan untuk mengkodekan huruf dan symbol dengan tujuan untuk memudahkan interaksi antara dan user dan computer. ASCII mempunyai bilangan binary sebanyak 8-bit yang bermula dari 00000000 hingga 11111111. Jumlah kombinasi yang dihasilkan adalah sebanyak 255, bermula dari kod 0 hingga 255 dalam sistem Desimal. Kod ASCII 0 hingga 127 merupakan kod untuk manipulasi teks, manakala kod ASCII 128 hingga 255 untuk manipulasi grafik.

**TABEL KODE ASCII**

| **Dec** | **Hex** | **Binary** | **Char** | **Description** |
| --- | --- | --- | --- | --- |
| 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 |

2. Daftar perintah Bahasa assembly

|  |  |
| --- | --- |
| **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 |

**DAFTAR INSTRUKSI**

|  |  |
| --- | --- |
| **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 |