

# MINIC 用アセンブラ

## ソースコード

```
#!/usr/bin/perl -W

%MCODE = ( 'HALT'=>0x0000,
            'PUSHI'=>0x1000,
            'PUSH' =>0x2000,
            'POP' =>0x3000,
            'JMP' =>0x4000,
            'JZ'  =>0x5000,
            'JNZ' =>0x6000,
            'LD'  =>0x7000,
            'ST'  =>0x8000,
            'IN'  =>0xD000,
            'OUT' =>0xE000,
            'ADD' =>0xF000,
            'SUB' =>0xF001,
            'MUL' =>0xF002,
            'SHL' =>0xF003,
            'SHR' =>0xF004,
            'BAND'=>0xF005,
            'BOR' =>0xF006,
            'BXOR'=>0xF007,
            'AND' =>0xF008,
            'OR'  =>0xF009,
            'EQ'  =>0xF00A,
            'NE'  =>0xF00B,
            'GE'  =>0xF00c,
            'LE'  =>0xF00D,
            'GT'  =>0xF00E,
            'LT'  =>0xF00F,
            'NEG' =>0xF010,
            'NOT' =>0xF011,
            'BNOT'=>0xF012);

$addr=0;
while(<>){
    push(@source,$_);
    if(/(?!w+):/){
        $label{$1}=$addr;
        s/!w+://;
    }
    if(/(-?#d+|[A-Z]+)/){
        $addr++;
    }
}

printf("*** LABEL LIST ***#n");
foreach (sort(keys(%label))){
    printf("%-8s%03X#n",$_,$label{$_});
}

$addr=0;
printf("#n*** MACHINE PROGRAM ***#n");
foreach (@source){
    $line = $_;
    s/!w+://;
    if(/PUSHI!s+(-?#d+)/){
        printf "%03X:%04X#t$line", $addr++, $MCODE{PUSHI}+(($1&0xfff));
    } elsif(/(PUSHI|PUSH|POP|JMP|JZ|JNZ)!s+(!w+)/){
        printf "%03X:%04X#t$line", $addr++, $MCODE{$1}+$label{$2};
    } elsif(/(-?#d+)/){
        printf "%03X:%04X#t$line", $addr++, $1&0xffff;
    } elsif(/([A-Z]+)/){
        printf "%03X:%04X#t$line", $addr++, $MCODE{$1};
    } else {
        print "#t#t$line";
    }
}
```