| OPCODE | Action   | Note                                   | IMD. ARG1 | IMD. ARG2 | IMD. BOTH |
|--------|----------|--|-----------|-----------|-----------|
| 0      | ADD      | ARG1 + ARG2                            | 128       | 64        | 192       |
| 1      | SUB      | ARG1 - ARG2                            | 129       | 65        | 193       |
| 2      | AND      | ARG1 AND ARG2                          | 130       | 66        | 194       |
| 3      | OR       | ARG1 OR ARG2                           | 131       | 67        | 195       |
| 4      | NOT A    | NOT A, ignores ARG2                    | 132       | 68        | 196       |
| 5      | XOR      | ARG1 XOR ARG2                          | 133       | 69        | 197       |
| 6      | MULTIPLY | ARG1 * ARG2                            | 134       | 70        | 198       |
| 7      | DIV      | ARG1 / ARG2                            | 135       | 71        | 199       |
| 8      | MOD      | ARG1 % ARG2                            | 136       | 72        | 200       |
| 9      | SHL      | ARG1 Shift left by ARG2                | 137       | 73        | 201       |
| 10     | SHR      | ARG1 Shift right by ARG2               | 138       | 74        | 202       |
| 11     | ASHR     | ARG1 Shift right by ARG2 (keep signed) | 139       | 75        | 203       |
| 12     | ROL      | ARG1 Rotate left by ARG2               | 140       | 76        | 204       |
| 13     | ROR      | ARG1 Rotate right by ARG2              | 141       | 77        | 205       |
| 14     |          |  | 142       | 78        | 206       |
| 15     |          |  | 143       | 79        | 207       |
| 16     | IF_EQL   | IF ARG1 == ARG2                        | 144       | 80        | 208       |
| 17     | IF_NEQ   | IF ARG1 != ARG2                        | 145       | 81        | 209       |
| 18     | IF_LES   | IF ARG1 < ARG2                         | 146       | 82        | 210       |
| 19     | IF_LOE   | IF ARG1 <= ARG2                        | 147       | 83        | 211       |
| 20     | IF_GRT   | IF ARG1 > ARG2                         | 148       | 84        | 212       |
| 21     | IF_GOE   | IF ARG1 >= ARG2                        | 149       | 85        | 213       |

| Keyword    | Туре      | Decimal | Note   | Usage example                                     |
|------------|-----------|---------|--|---|
| ADD        | OPCODE    | 0       | ARG1 + ARG2  |   |
| ADDRESS    | SRC(ARG1) | 5       | For readability (use with other keywords)                | Refer to keyword "NEXT/PREVIOUS"                  |
| AND        | OPCODE    | 2       | ARG1 && ARG2 (Bitwise)                                   | ,   |
| ASHR       | OPCODE    | 11      | ARG1 Shift right by ARG2 (keep signed)                   |   |
| BACK       | SRC(ARG1) | 8       | For readability (use with other keywords)                | Refer to keyword "RETURN"                         |
| CALL       | OPCODE    | 210     | Call a subroutine (same as JMP)                          | CALL NOW SUBROUTINE functionA                     |
| CALLER     | DES       | 6       | For readability (use with other keywords)                | Refer to keyword "RETURN"                         |
| COPY_CONST | OPCODE    | 192     | Copy a literal to destination                            | COPY_CONST 125 TO OUTPUT                          |
| COUNTER    | DES       | 6       | Program counter  |   |
| DIV        | OPCODE    | 7       | ARG1 / ARG2  |   |
| IF_EQL     | OPCODE    | 16      | ARG1 = ARG2  | IF_EQL REG0 REG1 lab_loop                         |
| IF_GOE     | OPCODE    | 21      | ARG1 >= ARG2   | IF_GOE REG0 REG1 lab_loop                         |
| IF_GRT     | OPCODE    | 20      | ARG1 > ARG2  | IF_GRT REG0 REG1 lab_loop                         |
| IF_LES     | OPCODE    | 18      | ARG1 < ARG2  | IF_LES REG0 REG1 lab_loop                         |
| IF_LOE     | OPCODE    | 19      | ARG1 <= ARG2   | IF_LOE REG0 REG1 lab_loop                         |
| IF_NEQ     | OPCODE    | 17      | ARG1 != ARG2   | IF_NEQ REG0 REG1 lab_loop                         |
| IMD_ARG1   | OPCODE    | 128     | Treat ARG1 as literal, use with OR operator (I)          | ADDJIMDARG1 150 REG0 REG1                         |
| IMD_ARG2   | OPCODE    | 64      | Treat ARG2 as literal, use with OR operator (I)          | IF_LES IMDARG2 REG0 150 lab_loop                  |
| IMD_ARG3   | OPCODE    | 192     | Treat ARG1 and ARG2 as literal, use with OR operator (I) | SUBJIMDARG2 150 50 REG1                           |
| IN         | SRC(ARG2) | 1       | For readability (use with other keywords)                | Refer to keyword "NEXT/PREVIOUS"                  |
| INPUT      | SRC(ARG1) | 7       | In-game only   |   |
| JMP        | OPCODE    | 208     | For readability, work as a GOTO                          | JMP NOW TO lab_loop                               |
| MEMORY     | DES       | 5       | For readability (use with other keywords)                | Refer to keyword "NEXT/PREVIOUS"                  |
| MOD        | OPCODE    | 8       | ARG1 % ARG2  |   |
| MOV        | OPCODE    | 64      | Copy the value of a "variable" to a destination          | MOV REG0 TO OUTPUT                                |
| MULTIPLY   | OPCODE    | 6       | ARG1 * ARG2  |   |
| NEXT       | OPCODE    | 64      | Increment address/value                                  | NEXT ADDRESS IN MEMORY; NEXT REGO IN REGO         |
| NOT_A      | OPCODE    | 4       | NOT A, ignores ARG2 (Bitwise)                            |   |
| NOW        | SRC(ARG1) | 0       | For readability (use with other keywords)                |   |
| OR         | OPCODE    | 3       | ARG1    ARG2 (Bitwise)                                   |   |
| OUTPUT     | DES       | 7       | In-game only   |   |
| PREVIOUS   | OPCODE    | 65      | Decrement address/value                                  | PREVIOUS ADDRESS IN MEMORY; PREVIOUS REGO IN REGO |
| RAM        | SRC/DES   | 128     | Get/send values from/to RAM                              | MOV REG0 TO RAM; MOV RAM TO REG0                  |
| REG0       | SRC/DES   | 0       | First register, work as a "variable"                     |   |
| REG1       | SRC/DES   | 1       | Second register, work as a "variable"                    |   |
| REG2       | SRC/DES   | 2       | Third register, work as a "variable"                     |   |
| REG3       | SRC/DES   | 3       | Fourth register, work as a "variable"                    |   |
| REG4       | SRC/DES   | 4       | Fifth register, work as a "variable"                     |   |
| REG5       | SRC/DES   | 5       | Sixth register, work as a "variable"                     |   |
| RETURN     | OPCODE    | 64      | Return from a subroutine                                 | RETURN BACK TO CALLER                             |
| ROL        | OPCODE    | 12      | Rotate bits of ARG1 to left by ARG2                      |   |
| ROR        | OPCODE    | 13      | Rotate bits of ARG1 to right by ARG2                     |   |
| SHL        | OPCODE    | 9       | Bit shift left ARG1 by ARG2                              |   |
| SHR        | OPCODE    | 10      | Bit shift right ARG1 by ARG2                             |   |
| STACK      | DES       | 8       | Stack data structure                                     |   |
| SUB        | OPCODE    | 1       | ARG1 - ARG2  |   |
| SUBROUTINE | SRC(ARG2) | 255     | For readability (use with other keywords)                | Refer to keyword "CALL"                           |
| TO         | SRC(ARG2) | 0       | For readability (use with other keywords)                | Refer to keyword "RETURN"                         |
| XOR        | OPCODE    | 5       | ARG1 ^ ARG2  |   |