

HW 12

Logic – cont'd

In this HW

Programming expressions use the C operators. E.g. `!a`, `a && b`, `a || b`, `~a`, `a & b`, `a | b`

Name: _____ Time spent: _____ min

1) Evaluate the following **programming** expressions individually

20 pts

```
int a;    int b;    int c;    int d;  
a = -3;  b = 6;    c = 1;    d = -2;
```

Value

Numerical True/False

$a + b > c + d$

--	--

$a - 2 * b + b > c * 2 / 3$

--	--

$3 * b / 4 \% 5 \&\& b$

--	--

2) Evaluate the following **programming** expressions individually

30 pts

```
int8_t a;  
a = -3;
```

```
int8_t b;  
b = 6;
```

```
int8_t c;  
c = 1;
```

```
int8_t d;  
d = 12;
```

$d \mid c$

$a \& \sim d$

$a \mid b \& c$

binary

hex

decimal

3) Evaluate the following programming expressions **individually**

30 pts

```
int8_t my_var;  
my_var = 20;
```

binary

hex

decimal

`my_var | 0x06`

`my_var & 0x59`

`my_var | 0x22 & 0x55`

4) Write an expression to perform each task

20 pts

```
int8_t my_var; // my_var's value is unknown
```

Set bit 2 of my_var to 1

expression

Set bit 5 of my_var to 0

Set bits 3 and 7 of my_var to 1