# GF2 Classes Reference Sheet

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## 1 Names Class

```
vector<namestring> nametable;
```

```
name lookup (namestring str);
```

- Returns internal representation of the name given in character form.
- If name is not already in table, it is automatically inserted.

```
name cvtname (namestring str);
```

- Returns internal representation of the name given in character form.
- If name is not already in table then 'blankname' is returned.

```
void writename (name id);
```

- Prints out given name on console.

```
void getname (name id);
```

- Returns the string.

```
int namelength (name id);
```

- Returns the length (i.e. number of characters in given name).

## 2 Devices Class

`void makedevice (devicekind dkind, name did, int variant, bool& ok);`

- Adds device to the network.
- Variant for no. of inputs etc.
- `ok` returns `TRUE` if successful.

`void setswitch (name sid, asignal level, bool& ok);`

- sets state of named switch.
- `ok` returns false if switch not found.

`void executedevices (bool& ok);`

- Executes all devices in the network to simulate one complete clock cycle.
- `ok` returns `FALSE` if network fails to stabilise.

`devicekind devkind (name id);`

- Returns the kind of device corresponding to the given name.
- `baddevice` is returned if the name is not a legal device.

`void writedevice (devicekind k);`

- Prints out the given device kind.

`void debug (bool on);`

- Used to set debugging switch.

## 3 Monitor Class

`void makemonitor (name dev, name outp, bool& ok);`

- Sets a monitor on the 'outp' output of device 'dev' by placing an entry in the monitor table.
- 'ok' is set true if operation succeeds.

`void remmonitor (name dev, name outp, bool& ok);`

- Removes the monitor set on the 'outp' output of device 'dev'
- 'ok' is set true if operation succeeds.

`int moncount (void);`

- Returns the number of signals currently monitored.

`asignal getmonsignal (int n);`

- returns signal level of n'th monitor point.

`bool getsignaltrace (int m, int c, asignal &s);`

- Access recorded signal trace.
- Returns `FALSE` if invalid monitor or cycle.

`void getmonname (int n, name& dev, name& outp);`

- Returns the name of n'th monitor

`string getmonprettyname (int n);`

- Returns name of device `n` in a string.

`void resetmonitor (void);`

- Initialises monitor memory in preparation for a new output sequence.

`void recordsignals (void);`

- Called every clock cycle to record the state of each monitored signal.

`void displaysignals (void);`

- Displays state of monitored signals.