

# Swap

This is a CSub module which will swap two variables. These Csubs are much faster than a subroutine written in BASIC.

There are two versions:

- Swap32 which will swap two variables that use 32 bits (floats on the 28 and 44-pin Micromites).
- Swap64 which will swap two variables that use 64 bits (floats on the Micromite Plus and integers on all types of Micromites).

## Adding the Subroutine to MMBasic

To add the Swap subroutine to MMBasic you must insert either one of the following code segments somewhere in your BASIC program (you can use copy and paste from this document).

```
CSub Swap32
00000000
8C820000 8CA30000 AC830000 03E00008 ACA20000
End CSub
```

```
CSub Swap64
00000000
8C820000 8C830004 8CA60000 8CA70004 AC860000 AC870004 ACA20000 03E00008
ACA30004
End CSub
```

## Usage

The CSubs are called with the two variables to be swapped on the command line;

SwapXX VarA, VarB

The value of VarA will be copied to VarB and the value of VarB will be copied to VarA (ie, the values will be swapped).

The variables can be elements of an array. For example, A(45)

## Example

To swap two floats on the standard (28 or 44-pin Micromite) which has single precision floats (32-bits):

```
Dim Float a, b
a = 12.3 : b = 78.9
Swap32 a, b
PRINT a, b
```

This will display

78.9      12.3

To swap two integers in an array on any Micromite:

```
Dim Integer a(5) = (0, 1, 2, 3, 4, 5)
Swap64 a(2), a(3)
For i = 0 to 5 : Print a(i); : Next i
```

This will display

0 1 3 2 4 5