

Macros in GAS

Peng-Sheng Chen
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Macros (1)

- Macros are very useful for doing something that is done often but for which a procedure cannot be used.
- Macros are substituted when the program is compiled to the code which they contain
- Once defined, it can be invoked (called) one or more times
- During the assembler's **preprocessing step**, each macro call is expanded into a copy of the macro

Macros (2)

Assembly code
with macros



Preprocessor



Assembly code
with macros
expanded

Macros in GAS

```
.macro macroname
```

```
...
```

```
.endm
```

```
.macro macroname arg1, arg2
```

```
... \arg1
```

```
... \arg2
```

```
.endm
```

Example

```
.macro  swap  arg1, arg2
mov    r1, \arg1
mov    \arg1, \arg2
mov    \arg2, r1
.endm

swap  r2, r3
swap  r5, r6
```



```
mov    r1, r2
mov    r2, r3
mov    r3, r1

mov    r1, r5
mov    r5, r6
mov    r6, r1
```

Reference

- GAS manual
<http://sourceware.org/binutils/docs-2.18/as/Macro.html#Macro>