

# Preprocessor (1A)

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# Preprocessor Commands

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- #define
- #undef
- #include
- #ifdef
- #ifndef
- #else
- #endif
- #line
- #elif

# Builtin Macros

---

- `__DATE__`
- `__TIME__`
- `__LINE__`
- `__FILE__`

# Define Macro

---

`#define`      `UNIT`                  unsigned char

`typedef`      unsigned char      `UINT;`

# Conditional File Inclusion

rect.h

```
#ifndef RECT_H  
#define RECT_H  
  
#endif
```

aaa.h

```
#include rect.h
```

bbb.h

```
#include rect.h
```

```
#include aaa.h  
#include bbb.h
```

# Swap Macro

```
#define SWAP(x, y) do { \
    typeof(x) temp##x##y = x; \
    x = y; \
    y = temp##x##y; \
} while (0)
```

# objcopy

---

objcopy t t.new

objcopy -o binary t t.new

objcopy -R note -R .comment t t.new

objcopy -S t t.new

No elf header, only data & instruction

Remove .note & .comment section

Remove symbols & relocation info



## References

- [1] An Introduction to GCC, B. Gough, <http://www.network-theory.co.uk/docs/gccintro/>
- [2] Unix, Linux Programming Indispensable Utilities, CW Paik