

and you type a third hexadecimal address. If you type <carriage return>, the object program will find the highest available RAM address at runtime. Finally the compiler prompts:

WIDTH (DECIMAL)?

and you type a decimal number less than 256 to specify the desired output device column width. A default value of 72 is assumed if <carriage return> is typed.

Next the compiler prints a map of memory usage, of the form

```
ROM USE: aaaaH TO bbbbH
PROGRAM: ccccH TO bbbbH
RAM USE: eeeeH TO ffffH
RAM BYTES FREE: ggggH
```

The first two lines indicate that the object program will reside in ROM between aaaaH and bbbbH, with the runtime package itself at aaaaH to ccccH-1 and the XYBASIC program at ccccH to bbbbH. For given values of START OF ROM and START OF RAM the runtime package is independent of the source program; therefore object program locations ccccH to bbbbH can be altered to execute different compiled programs without changing locations aaaaH to ccccH-1. The next line indicates RAM statically allocated for runtime package use. The final line indicates the initial number of free bytes remaining below the end of RAM, and appears only if you specified an END OF RAM address. If no free bytes remain, or if the object program's RAM and ROM use areas overlap, an error message will appear and you can try specifying different addresses in response to the compiler prompts.

Finally the compiler writes the object file as [filename].HEX, with the first ROM location as the starting address. The object file is written on the disk specified as the location of the source file.

Object File Execution

The result of executing the object file [filename].HEX is the same as LOADING and RUNNING [filename].XYB under the XYBASIC interpreter, with the following exceptions.

- 1) UNTRAP mode is assumed, i.e. execution continues after nonfatal errors. Error messages give the error line number, but do not print the bad line.
- 2) Any action which would return you to direct mode (fatal errors, STOP or END, or typing <control-C>) will instead have the same effect as <control-B>, i.e. will exit from XYBASIC and return to the monitor or operating system.
- 3) Direct commands (NEW, RUN, LIST, CONT), program saving and loading (SAVE and LOAD), and debugging commands (TRACE/UNTRACE, TRAP/UNTRAP, BREAK/UNBREAK) produce nonfatal UF (Unimplemented Feature) errors but have no other effect.
- 4) Input and output operations (Console In, Console Out, List Out, Console Status) are performed through a jump vector located at the base of the