# Algorithm for Pass 1 of a Linker Loader

**Pass 1:**

```
    begin
    get PROGADDR from operating system
    set CSADDR to PROGADDR {for first control section}
    while not end of input do
      begin
        read next input record {Header record for control section}
        set CSLTH to control section length
        search ESTAB for control section name
        if found then
           set error flag {duplicate external symbol}
        else
           enter control section name into ESTAB with value CSADDR
      while record type! =  'E' do
       begin
         read next input record
         if recoed type = 'D' then
            for each symbol in the record do
             begin
                search ESTAB for symbol name
                if found then
                    set error flag {duplicate external symbol}
                 else
                    enter symbol into ESTAB with value
                            (CSADDR + indicated address)
                    end {for}
            end{while ! = 'E'}
       add CSLTH to CSADDR {starting address for next control section}
end {while not EOF}
end {Pass 1}
```