`\insert` ⟨*number*⟩ `{` ⟨*vertical mode material*⟩ `}`

This primitive command provides the underlying mechanism for constructing insertions, but it is hardly ever used outside of a macro definition. The definitions of the `\footnote`, `\vfootnote`, `\topinsert`, `\midinsert`, and `\pageinsert` commands are all built around `\insert`.

When you design insertions for a document, you should assign a different integer code[1] n to each kind of insertion, using the `\newinsert` command (p. '`\@newinsert`') to obtain the integer codes. The `\insert` command itself appends the ⟨*vertical mode material*⟩ to the current horizontal or vertical list. Your output routine is responsible for moving the inserted material from where it resides in `\box`n to an output page.

TEX groups together all insertions having the same code number. Each insertion code n has four registers associated with it:

- `\box`n is where TEX accumulates the material for insertions with code n. When TEX breaks a page, it puts into `\box`n as much insertion n material as will fit on the page. Your output routine should then move this material to the actual page. You can use `\ifvoid` (p. '`\@ifvoid`') to test if there is any material in `\box`n. If not all the material fits, TEX saves the leftovers for the next page.
- `\count`n is a magnification factor f. When TEX is computing the vertical space occupied on the page by insertion n material, it multiplies the vertical extent of this material by $f/1000$. Thus you would ordinarily set f to 500 for a double-column insertion and to 0 for a marginal note.
- `\dimen`n specifies the maximum amount of insertion n material that TEX will put on a single page.
- `\skip`n specifies extra space that TEX allocates on the page if the page contains any insertion n material. This space is in addition to the space occupied by the insertion itself. For example, it would account for the space on a page above the footnotes (if there are any).

TEX sets `\box`n, and you should set the other three registers so that TEX can correctly compute the vertical space required by the insertion. See pages 122–125 of *The TEXbook* for further details of how TEX processes this command and of how insertions interact with page breaking.

[1] *The TEXbook* uses the term "class" for a code. We use a different term to avoid confusion with the other meaning of "class" (p. '`class`').