Here’s the layout of the C program:

```c
#define abort(c,m) {
    fprintf(stderr,"%s!\n%s",m,buf); return c;
}

#include <stdio.h>
#include <string.h>
#include <ctype.h>

typedef struct {
    char key[max_key];
    char entry[max_size];
} item;

item items[max_items];     /* all items of current group */
item *sorted[max_items];    /* pointers to items in alphabetic order */
char cur_page[10];          /* page number, as a string */
char buf[max_size];         /* current line of input */
char *input_status;         /* Λ if end of input reached, else buf */

int main() {
    register char *p, *q;
    register int n;      /* current number of items */
    register item *x, **y;
    input_status ← fgets(buf,max_size,stdin);
    while (input_status) {
        (Check that buf contains a valid page-number line)
        (Read and sort additional lines, until buf terminates a group)
        (Output the current group)
    }
    return 0;    /* normal exit */
}

(Output the current group)

```

This code is used in section 2*. A corresponding change to the copying loop is also needed.

```c
/* Copy the buffer to x-entry */
{
    register int toggle ← 0;
    for (p ← buf + 2, q ← x-entry; (*p ≠ ' ' ∨ toggle) ∧ *p; p++)
    {
        if (*p ≡ '
') toggle ⊕= 1;
        if (*p ≠ ' ')
        {
            *q++ ← *p;
            if (*p ≠ ' ')
                *q++ ← *p;
        }
    }
}
```

This code is used in section 6.
11* Index.
The following sections were changed by the change file: 2, 5, 10, 11.

abort: 2*, 3, 4, 6, 7.
buf: 2*, 3, 4, 6, 9, 10*
cur_page: 2*, 3, 5*
entry: 2*, 5*, 10*
fgets: 2*, 4.
fprintf: 2*
input_status: 2*, 4.
isupper: 6, 7.
item: 2*
items: 2*, 4.
key: 2*, 6, 7, 8.
main: 2*
max_items: 1, 2*, 4.
max_key: 1, 2*, 6.
max_size: 1, 2*, 4, 6.
n: 2*
p: 2*
printf: 5*
q: 2*
sorted: 2*, 5*, 8.
stderr: 2*
stdin: 2*, 4.
strncpy: 8.
strlen: 3.
toggle: 9, 10*
x: 2*
y: 2*
(Check that \textit{buf} contains a valid page-number line 3) Used in section 2*.
(Copy the buffer to \textit{x-entry} 10*) Used in section 6.
(Copy \textit{buf} to item \textit{x} 6) Used in section 4.
(Output the current group 5*) Used in section 2*.
(Process a custom-formatted identifier 7) Used in section 6.
(Read and sort additional lines, until \textit{buf} terminates a group 4) Used in section 2*.
(Scan past \textit{α} 9) Used in section 6.
(Sort the new item into its proper place 8) Used in section 4.
# REFSORT-CHANGES

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorting</td>
<td>6</td>
</tr>
<tr>
<td>A bugfix</td>
<td>9</td>
</tr>
<tr>
<td>Index</td>
<td>11</td>
</tr>
</tbody>
</table>