Assignment 5

Please complete a report in English <mark>in English in English in English</mark> and upload the corresponding codes.
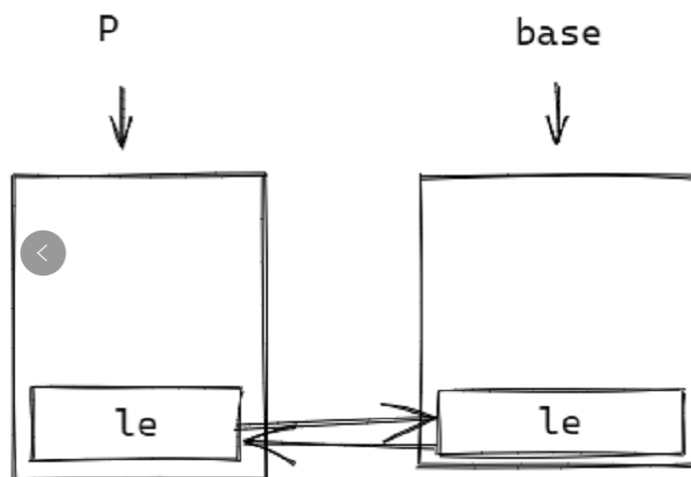
The files should be uploaded directly without compression <mark>without compression without compression without compression</mark>

The files to be submitted for this assignment are:

1. report.pdf
2. default_pmm.c
3. best_fit_pmm.c

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1. [50 pts] Please realize merging free blocks in `default_free_pages()`

   In the lab code, there may exists the continuous free pages are divided into several blocks after released. Complete `default_free_pages()` to merge these continuous free pages in to a single node.

   There may exists free block(p) before or after the newly released free block(base) . To merge them, you should:

   a) Modify P's property

   b) clear base's property

   c) update the free_list

   You can modify the check function in `default_pmm.c` to check your code.

```
const struct pmm_manager default_pmm_manager = {
    .name = "default_pmm_manager",
    .init = default_init,
    .init_memmap = default_init_memmap,
    .alloc_pages = default_alloc_pages,
    .free_pages = default_free_pages,
    .nr_free_pages = default_nr_free_pages,
    .check = default_check,
    // 合并空闲块之后，请将上面的check注释，下面的check解除注释，进行测试
    //.check = firstfit_check_final,
};
const struct pmm_manager default_pmm_manager = {
    .name = "default_pmm_manager",
    .init = default_init,
    .init_memmap = default_init_memmap,
    .alloc_pages = default_alloc_pages,
    .free_pages = default_free_pages,
    .nr_free_pages = default_nr_free_pages,
    //.check = default_check,
    // 合并空闲块之后，请将上面的check注释，下面的check解除注释，进行测试
    .check = firstfit_check_final,
};
```

to

Your report should include the screenshot of your code(with annotations) and the check result(run `make qemu` to see the result).

6. [50 pts] Realize `bestfit` in `best_fit_pmm.c`.

You can modify `pmm_manager()` in `default_pmm.c` to check your code.

```
static void init_pmm_manager(void) {
    pmm_manager = &default_pmm_manager;
    //pmm_manager = &best_fit_pmm_manager;
    cprintf("memory management: %s\n", pmm_manager->name);
    pmm_manager->init();
}
```

Your report should include the screenshot of your code(with annotations) and the check result(run `make qemu` to see the result).