hasPages— xv6-CS450 man page

Display the different kinds of user pages allocated to the process with the given pid.

SYNOPSIS

```
#include "types.h"
#include "user.h"

int hasPages(int pid);
```

DESCRIPTION

hasPages() takes a pid as an input argument and displays relevant statistical information of the page directory allocated to the process with the given pid. This includes the number of valid (present) pages, user/supervisor pages and writable pages. Additionally, cache-based statistics of the pages — including the number of write-through/write-back pages, cache-disabled pages, recently-accessed pages, and dirty pages — are listed. The number pages belonging to different areas of the address space (.text/.data, stack & heap) are also presented.

RETURN VALUE

0 on success; -1 on failure.

ERROR HANDLING

The return value of the hasPages() system call can be checked to detect errors. If the returned value is -1, an error has occurred. This error indicates that the pid argument passed to the system call is either invalid or does not belong to any existing process.

EXAMPLE

If at least one dynamic and one local variables are present in the code, a call to hasPages(getpid()) (using the current process's pid) will show exactly 1 stack page, a few heap pages, and other additional information.