A7 Hints

- OpenDir
- ReadDir
- Dup
- Pipe
- ChMode
- Link
- Unlink

Handle Sys Read

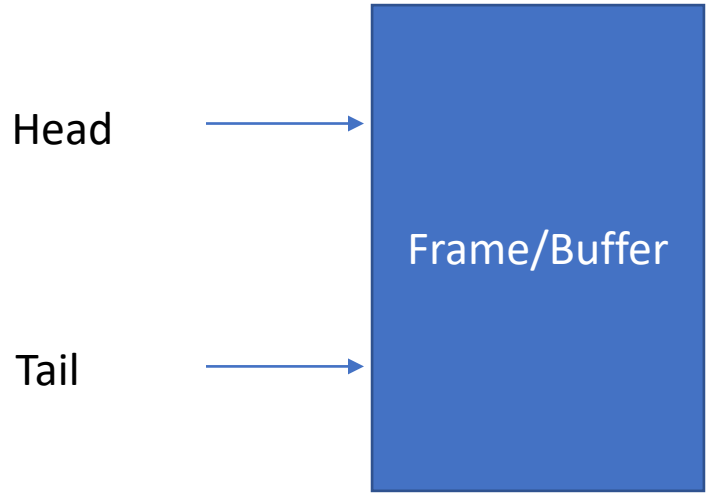
- Handle_Sys_Read
  - Checks curFile.Kind to decide what call to make:
    - FILE: ReadFile
    - PIPE: returns curFile.pipePtr.Read
    - Terminal: empty
    - Directory: throw error

FileManager.Pipe

- Create Two file descriptors
- Open first and init it as a Read only PIPE
- Open second file and init it as Write PIPE
- GetAPipe from fileManager
- Set current process file descriptors to the open files
- Set both to the pipe you got from GetAPipe
- Copy array address to virtual space (argument array)

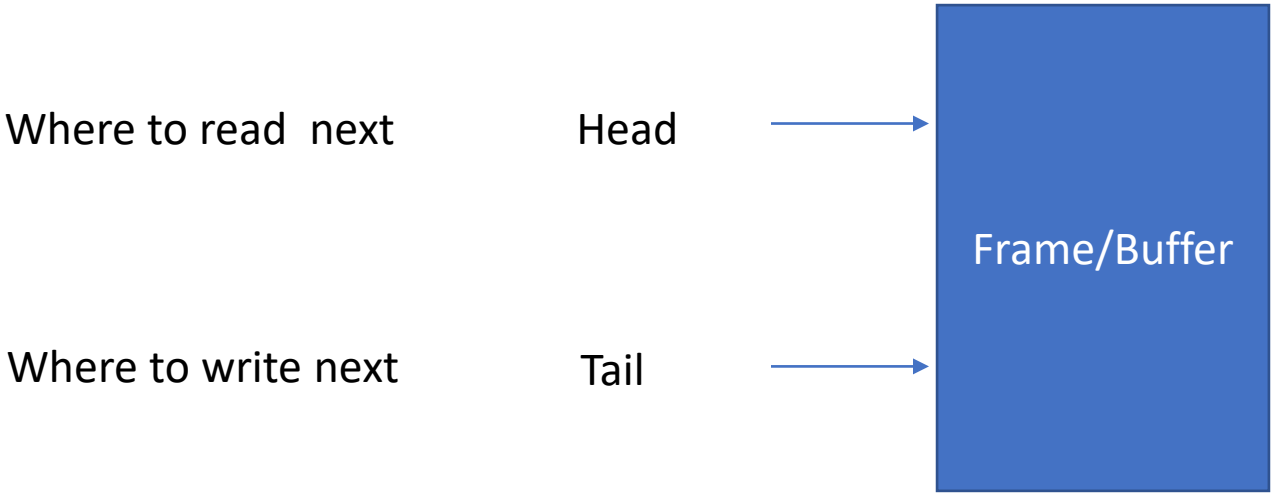
Pipe

- Similar to bounded buffer, however our buffer is a frame of physical memory.
- The read and write are similar to read file and write file implementation.
- A writer has to complete all of its write before allowing the next writer thread to get a hold of the pipe.
- You will need a writer queue or waiting line similar to the dice problem.



Pipe

- Write should return -1 if the number of users is less than 2.
- Error should be set to E_No_Reader



Link

- Link (oldname, newname: String)
- Extract File name
  - Use OpenLastDir
  - OpenLastDir (filename, startDir, lastIndex)
- Directory.AddEntry (inodeNum, fileName)
- User Directory.AddEntry to add the file. You need its inode number of the file and its new name.
- We want the new path point to the same file of the old path.