**42 Common Core | Milestone 2**

**PUSH\_SWAP**

**Overview**

**CONCEPTS**

**Stack:** abstract data type that serves as a collection of elements where insertion/removal happens only at the top.

**Algorithm:** finite sequence of rigorous instructions used to solve a problem.

**Computational complexity of an algorithm:** the amount of time, storage, or other resources needed to execute it. **Analysis of algorithms** consists in estimating their complexity, by relating the size of an algorithm's input to the number of steps it takes (time complexity) or the number of storage locations it uses (space complexity).

**FUNCTIONS**

**read**

|  |  |
| --- | --- |
| Prototype |  |
| Purpose |  |
| Parameters |  |
| Return value |  |

**write**

|  |  |
| --- | --- |
| Prototype | #include <unistd.h>  ssize\_t write(int fd, const void \*buf, size\_t count); |
| Purpose | Writes up to count bytes from buf to the file descriptor fd. |
| Parameters | fd: file descriptor (e.g., 1 for stdout, 2 for stderr)  buf: pointer to the data buffer to write  count: number of bytes to write |
| Return value | number of bytes written on success or -1 on failure |

**malloc**

|  |  |
| --- | --- |
| Prototype |  |
| Purpose |  |
| Parameters |  |
| Return value |  |

**free**

|  |  |
| --- | --- |
| Prototype |  |
| Purpose |  |
| Parameters |  |
| Return value |  |

**exit**

|  |  |
| --- | --- |
| Prototype |  |
| Purpose |  |
| Parameters |  |
| Return value |  |