

# 2024 COMP3301 A2 Flowchart Template

Level	Sender	Socket	Receiver
User Level	<b>sendmsg()</b> [from fdsend.c]	<div> <div>—————Name—————→</div> <div>Name</div> <div>—————iovec data—————→</div> <div> <div>"Hello World"</div> <div>"Hello World"</div> <div>"Hello World"</div> <div>"Hello World"</div> </div> <div>—————control data—————→</div> <div> <div>fd</div> <div>fd</div> <div>fd</div> <div>fd</div> </div> </div>	<b>recvmsg()</b> [from fdrecv.c]
	int s: socket file descriptor		int s: socket file descriptor
	const struct msghdr msggr name - name of message iovec data - messages to send over socket control data - ancillary data		const struct msghdr msggr name - name of message iovec data - data sent over socket control data - ancillary data
	int flags: flag vector		int flags: flags received
	return: Bytes sent		return: Bytes received
Syscall Level	<b>sys_sendmsg()</b> [from uipc_syscalls.c]	<div> <div>—————Messages—————→</div> <div>Name</div> <div> <div>"Hello World"</div> <div>"Hello World"</div> <div>"Hello World"</div> <div>"Hello World"</div> </div> <div> <div>fd</div> <div>fd</div> <div>fd</div> <div>fd</div> </div> </div>	<b>sys_recvmsg()</b> [from uipc_syscalls.c]
	proc *p: calling thread of syscall		proc p: calling thread of syscall
	void* v : sendmsg() parameters		void* v : sendmsg() parameters
	register_t retval: register to put bytes sent		register_t retval: register to put bytes recieved
	return: syscall errno		return: syscall errno
	<b>sendit()</b> [from uipc_syscalls.c]		<b>recvit()</b> [from uipc_syscalls.c]
	proc *p: sending thread		proc *p: sending thread
	int s: socket file descriptor		int s: socket file descriptor
	struct msghdr *mp: socket send data		struct msghdr *mp socket receive data
	int flags: flag vector		caddr_t namelep: address to put namelen
	register_t retval: register to put bytes sent		register_t retval: register to put bytes received
	return: errno		return: errno
Abstract Socket Level	_____ [from _____.c]	<div> <div>—————Messages—————→</div> <div> <div>"Hello World"</div> <div>fd</div> <div>"Hello World"</div> <div>fd</div> <div>"Hello World"</div> <div>fd</div> <div>"Hello World"</div> <div>fd</div> </div> </div>	_____ [from _____.c]
	return: errno		
Socket Control Level	_____ [from _____.c]	<div> <div>Message</div> <div>"Hello World"</div> <div>SOCKET</div> <div>struct _____</div> </div>	_____ [from _____.c]
	return: errno		
	_____() [from _____.c]		
	return: errno		return: errno