

REAL TIME OPERATING SYSTEM PROGRAMMING-I: μ C/OS-II and VxWorks

Lesson-5: μ C/OS-II (MUCOS) Memory Functions

1. Memory Allocation Related Functions

OSMemCreate

- OSMem *OSMemCreate (void *memAddr, MEMTYPE numBlocks, MEMTYPE blockSize, unsigned byte *memErr)

to create and initialise a memory partition (Example 11.14 Step 4)

OSMemPut (*memCBPointer, *memErr)

- unsigned byte OSMemPut (OS_MEM * memCBPointer, void *memBlock)

To return a pointer of memory block in memory partitions from the memory control-block pointer

OSMemGet (*memCBPointer, *memErr)

- void *OSMemGet (OS_MEM
*memCBPointer, unsigned byte
*memErr)

— To find pointer of the memory control
block allocated to the memory-blocks
(Example 11.15 Step 6)

OSMemQuery (* memCBPointer, *memData)

- unsigned byte OSMemQuery
(OS_MEM * memCBPointer,
OS_MEM_DATA *memData)

To find pointer of memory control block
and OS_MemData data-structure

2. Macros for Memory Functions

Macros to find status after execution of OS Memory Functions

- OS_NO_ERR returns true when creation succeeds.

OS_MEM_INVALID_BLKs returns true,

when at least two blocks are not passed as arguments.

Macros to find status after execution of OS Memory Functions

- `OS_MEM_INVALID_PART` returns true, when memory for partition is not available.
- `OS_MEM_INVALID_SIZE` returns true, when block size is smaller than a pointer variable.

Summary

We learnt

- μ C/OS-II (MUCOS) Memory Functions for Memory partitions allocation and deallocation functions and macros

End of Lesson-5 Chapter 11 on μ C/OS-II Memory Functions