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

Lesson-5:

μC/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 9.14 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 9.15 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

- µC/OS-II (MUCOS) Memory Functions for Memory partitions allocation and deallocation functions and macros
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End of Lesson-5 Chapter 9 on μC/OS-II Memory Functions