

CG2271
Final Exam Reference Sheet

```
osThreadId_t osThreadNew ( osThreadFunc_t    func,  
                           void *            argument,  
                           const osThreadAttr_t * attr  
                           )
```

Parameters

- [in] **func** thread function.
- [in] **argument** pointer that is passed to the thread function as start argument.
- [in] **attr** thread attributes; NULL: default values.

```
osMutexId_t osMutexNew ( const osMutexAttr_t * attr )
```

Parameters

- [in] **attr** mutex attributes; NULL: default values.

```
osStatus_t osMutexAcquire ( osMutexId_t mutex_id,  
                             uint32_t    timeout  
                             )
```

Parameters

- [in] **mutex_id** mutex ID obtained by **osMutexNew**.
- [in] **timeout** **Timeout Value** or 0 in case of no time-out.

```
osStatus_t osMutexRelease ( osMutexId_t mutex_id )
```

Parameters

- [in] **mutex_id** mutex ID obtained by **osMutexNew**.

```
osSemaphoreId_t osSemaphoreNew ( uint32_t          max_count,  
                                uint32_t          initial_count,  
                                const osSemaphoreAttr_t * attr  
                                )
```

Parameters

- [in] **max_count** maximum number of available tokens.
- [in] **initial_count** initial number of available tokens.
- [in] **attr** semaphore attributes; NULL: default values.

```
osStatus_t osSemaphoreAcquire ( osSemaphoreId_t semaphore_id,  
                                uint32_t          timeout  
                                )
```

Parameters

- [in] **semaphore_id** semaphore ID obtained by **osSemaphoreNew**.
- [in] **timeout** **Timeout Value** or 0 in case of no time-out.

```
osStatus_t osSemaphoreRelease ( osSemaphoreId_t semaphore_id )
```

Parameters

- [in] **semaphore_id** semaphore ID obtained by **osSemaphoreNew**.

```
uint32_t osThreadFlagsSet ( osThreadId_t thread_id,  
                           uint32_t      flags  
                           )
```

Parameters

- [in] **thread_id** thread ID obtained by **osThreadNew** or **osThreadGetId**.
- [in] **flags** specifies the flags of the thread that shall be set.

```
uint32_t osThreadFlagsWait ( uint32_t flags,  
                             uint32_t options,  
                             uint32_t timeout  
                             )
```

Parameters

- [in] **flags** specifies the flags to wait for.
- [in] **options** specifies flags options (osFlagsXxxx).
- [in] **timeout** **Timeout Value** or 0 in case of no time-out.

```
osEventFlagsId_t osEventFlagsNew ( const osEventFlagsAttr_t * attr )
```

Parameters

[in] **attr** event flags attributes; NULL: default values.

```
uint32_t osEventFlagsSet ( osEventFlagsId_t ef_id,  
                           uint32_t          flags  
                           )
```

Parameters

[in] **ef_id** event flags ID obtained by **osEventFlagsNew**.

[in] **flags** specifies the flags that shall be set.

```
uint32_t osEventFlagsWait ( osEventFlagsId_t ef_id,  
                             uint32_t          flags,  
                             uint32_t          options,  
                             uint32_t          timeout  
                             )
```

Parameters

[in] **ef_id** event flags ID obtained by **osEventFlagsNew**.

[in] **flags** specifies the flags to wait for.

[in] **options** specifies flags options (osFlagsXxxx).

[in] **timeout** **Timeout Value** or 0 in case of no time-out.

```
osMessageQueueId_t osMessageQueueNew ( uint32_t          msg_count,
                                         uint32_t          msg_size,
                                         const osMessageQueueAttr_t * attr
                                         )
```

Parameters

- [in] **msg_count** maximum number of messages in queue.
- [in] **msg_size** maximum message size in bytes.
- [in] **attr** message queue attributes; NULL: default values.

```
osStatus_t osMessageQueuePut ( osMessageQueueId_t mq_id,
                               const void *        msg_ptr,
                               uint8_t             msg_prio,
                               uint32_t             timeout
                               )
```

Parameters

- [in] **mq_id** message queue ID obtained by **osMessageQueueNew**.
- [in] **msg_ptr** pointer to buffer with message to put into a queue.
- [in] **msg_prio** message priority.
- [in] **timeout** **Timeout Value** or 0 in case of no time-out.

```
osStatus_t osMessageQueueGet ( osMessageQueueId_t mq_id,
                               void *              msg_ptr,
                               uint8_t *           msg_prio,
                               uint32_t             timeout
                               )
```

Parameters

- [in] **mq_id** message queue ID obtained by **osMessageQueueNew**.
- [out] **msg_ptr** pointer to buffer for message to get from a queue.
- [out] **msg_prio** pointer to buffer for message priority or NULL.
- [in] **timeout** **Timeout Value** or 0 in case of no time-out.