

Embedded Systems

CS 397

TRIMESTER 3, AY 2021/22

# Assignments 3 and 4

## Additional Information

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Using DMA for ADC: DMA must be initialized before ADC

**Driver Selector**

Search (Ctrl+F)

- RCC
- GPIO
- > USART
- DMA
- > ADC
- DAC
- > CAN
- CORTEX\_M7

```

/* Initialize all configured peripherals */
MX_GPIO_Init();
MX_USART3_UART_Init();
MX_DMA_Init();
MX_ADC1_Init();
MX_ADC3_Init();
MX_DAC_Init();
MX_CAN1_Init();
MX_CAN2_Init();
  
```

**Generated Function Calls**

Generate Code	Rank	Function Name	Peripheral Inst...	Do Not Generate Function Ca	Visibility (Static)
<input checked="" type="checkbox"/>	1	SystemClock_...	RCC	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	MX_GPIO_Init	GPIO	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	MX_USART3_U...	USART3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	MX_DMA_Init	DMA	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5	MX_ADC1_Init	ADC1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	6	MX_ADC3_Init	ADC3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	7	MX_DAC_Init	DAC	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8	MX_CAN1_Init	CAN1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	9	MX_CAN2_Init	CAN2	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Move ADC below DMA**

Pinout & Configuration      Clock Configuration      Project Manager

Project

Code Generator

Advanced Settings

Driver Selector

Search (Ctrl+F)

RCC HAL

GPIO HAL

> USART HAL

DMA HAL

> ADC HAL

DAC HAL

> CAN HAL

CORTEX\_M7 HAL

Generated Function Calls

Generate Code	Rank	Function Name	Peripheral Insta...	Do Not Generate Function Ca	Visibility (Static)
<input checked="" type="checkbox"/>	1	SystemClock_...	RCC	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	MX_GPIO_Init	GPIO	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3	MX_USART3_U...	USART3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4	MX_DMA_Init	DMA	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5	MX_ADC1_Init	ADC1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	6	MX_ADC3_Init	ADC3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	7	MX_DAC_Init	DAC	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8	MX_CAN1_Init	CAN1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	9	MX_CAN2_Init	CAN2	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\* (indicated by a red arrow pointing to the 'MX\_ADC1\_Init' row)

For example, select the line by click on "ADC1",  
then apply the change \*