

* S/N ؟

* Conditional Combination ؟

لو في For loop فاجبة خالص ، بتبقى infinity loop

ال exceptions وال Fault

ال switch الحالة او حيرة الى ه يكون لها تأثير قبل ال Cases ال definition

Cache بيع ال MPU ولا Core ؟

ال Pullup وال Pundown

ال Sinking أصب ولا ال Source بيع ال Sink أصب

عليك إلمامة والجمع منغش مع ال Pointers لوال diff. Types 2 PT error

الفارق بين ال (Prelinking وال Postbuild وال Prebuild) ب link جزع منغش ال Push

أهمية ال Type def ؟

ما أعلا ال Free مكان في ال Memory منغش في ال run-time

هو هيطوع garbage . heap ال unde fined-behavi

while (i > 0); دارة infinity loop ال i > 0

y = ++x + x++ ; x = 10 ;

بتتغير من إشار ال اليسر ، هيطوع ال x = 11 هيروح ال 2 oper هيطوع ال x2 = 11

ويروح قان يروح ال x + 1

ال run-time بيع من ال Access ال الجاول Access أو أنتم ال Zero

حسابات ال C.P.U-load ؟ (Execution Time / Periodicity) of every Task

ال TCB من Size ال Stack ؟ بيع ال TCB لو حد هيرتت

ال dangled PTR ال Wild PTR ← Generation Fault or run time error

ال heap mapping-or (X) (X) (X)

ال char array = "AhMed" ; (A) ال Modification

ال char *P = "AhMed" ; (B) ال Modification

الفارق بين ال servo وال steller ؟

ال linker script ؟

الفارق بين ال (static Dynamic/linking) ؟

* static linking libraries linked at compile time so it has more code size

but dynamic " " " at run time so code size is less than static

→ dynamic linking refer to fn. while static linking refer

To macro like fn. ال objectCopy ال object dump utility

ال Make all ال Make clean (iv)

* char *str = "AhMed" ;

* size of (str) → depend on add bus

* " " (*str) → 1 byte depend on each character saved in. How Much bytes ?

* #pragma-pack (1)

1 byte كMemory alignment في ال

deadlock

مثال على ال inheritance

int a = 0;

while (a < "HI")

{ 01P } ←

{

a++;

}

نصف المدد
الاول ونقارن

.TCB

Stack

allocate

Kernel

Task delete

priority

في ال

run-time

Map File

bytes section وال Memory

create في مرحلة ال linker يستخدم

linking

يستخدم في ال debugging

Text
flash, read
data
data
bss
stack

Segments

Section

reference by files symbols

يستخدم في ال file symbol في file

size of (struct) من غير size-off

var في مكان معين

light-illumination

PnP

(Power regulation)

used with convert AC to DC

(DAC Applications)

charge

avoid ripples

rectification-circuit

due To high generated Frequency. $f_{req} = \frac{f_t}{256(TG)}$

synchronization

global var في ال semaphore

Message Queue with single buffer

Mail box: عبارة عن

$\{x_{T2} (\cdot \cdot \cdot) - P(3) \}$ $\{ \text{Histogram with bars at 60, 61, 62 and a tail to the right. } \mu = 61.5 \}$

① it found in arm:

it created by int var_attribute ((at(0x40001000)));

$$\text{var} Y = 4;$$

```
② #define IOPINO (*(volatile U32*)0xEE028000)
```

IO PIN 0 = 5;

③

Using linker script to create section in unique add.
Then save variable init.

```
int MYVAR attribute ((section("MYSECTION"))) = 0x98BCDEF0;
```

main()

A

Value

main ()

access var here.

linker Id
sections

2

7. 2. 1. 2.

address

double dots

Mark

```
mySegment 0x12345678: { Keep>(*(&mySection)) }
```

Q/P) \gg SRAM

\$ 0x12345678 → print-address.

0x98BCDEF0 → Print value

Ex. GRAM I'd like to say
start up code II

(not recommended in NOT-misyl) differential gain ≈ 1 X

النتائج: ADC بحالة disable وبعد ^{Medium} enable ثاني قراءات أقل (25 clock cycle).

* من الحاجات العقل ADC واما لدم أقاله وان ال $\frac{1}{2} P \sin \theta$ أقاله من ال

(FADC/2) معادن سون ال TIME باء signal آفون ADC Time فاف

• ADC STEP 1 ($= \frac{V_{ref}}{2^N}$) device 11glt step 11vltg. conversion 11cla

* يصف دالة الـ (ADC is 10 bits) * يصف يلاف (10) لفات عشوائى يحسب الـ (Digital)

$(1024)_{\text{Step}}$ & Step II ko (Sampling) II ko $(1024)_{\text{Step}}$ & Stage

Sampling is

ARM → DMA
*(P++)

* لو مقيش bootloader بنسخة external program عشان ي update ال new software

* DeMUX MUX & encoder & decoder

* Semaphore TAKE (BTN, 5000)

* لو ال Semaphore د مقيش حيلة (give) أكا حاجة بعد الورد فتتعاوند بعد كل 55 sec كل مرة ال Task د هتجى

* عبارة عن resource allocator بيشت هو اللى CPU resource allocate
* هو عبارة عن control progs بيشت ال user يحس وان ال برامج شتالة مع بعض
* وان كل برنامج شتال طول الوقت بعدا أكلة off
* ال Kernel هو اللى Manage ال system

* ال Kernel هو اللى بيريد بين ال use software و ال hardware

* divide by zero & run time error
* Map-File

* بيخبرون على ال Memory Configuration كل section واحد كى byte
* لو علت بس فى الورد كدة

* error
* if (X == 10) ...
* fn-brackets

* Bodu.Cde

* volatile_ptr

* Misra

* Asynchronous ISR

* Kernel هو جوف فية ال implementation

* Service ال .fn implementation

* Storage classes : auto, register, static, extern

* Type & Size ال Compiler

* Pre ال Post

* P = P+1;
* P = *P+1;
* (*P)++;
* (*P)++;
* ++(*P) == ++(*P);

* فرق کمان بین #define و const و enum
 Macro منقسم بتیاری و Fn Call by reference و const و enum

✓ have opposite sign (2 num)
 status = ((num1 ^ num2) < 0);

• "data, bss, stack, heap, text" ← Memory layout
 return ← is called by Hardware ← ISR
 Parameters

⚡ (interrupt) latency

* Segmentation Fault
 Try to access vodata ✓
 accessing Null ptr ✓
 dangled ptr some times lead to it.
 stack overflow
 accessing outside of block

* bus fault
 if target support only alignment.
 accessing Page error.

access thumb2
 usage
 * Null ptr
 access notes address

* MISRA
 if condition, if, else if, else.
 Casting when assign from different data types.

* Synchronized slave
 CPU load

Periodicity

$$CPU\% = \frac{execution\ time\ 1}{Periodicity} + \frac{execution\ time\ 2}{Periodicity} + \frac{execution\ time\ 3}{Periodicity} \times 100\%$$

* Startup File ✓
 Startup Code
 linker script

93 *

~~* in line - Pn~~

✓ * disadv

✓ *

✓ *

بقدر تسقى

5.7

*RS232P

$\text{ZF} = \text{if res}$

neg-play:

$\sigma \bar{V}$ - flag:

CARRY FLAG:

↳ f stat

✓ § CNN-P

$$1 P(X=\theta)$$

Ques

✓ intro

✓ interval

✓ INT

51

extern

Typedef

```
int a;
```

int bi

Temp;

