

EE 3921

Dr. Johnson

Homework 11

1 – Write the code snippet to register PIOA from HW10 interrupts
identify all variables/pointers required

– 50 pts

```
void * pio_edge_ptr; // context
```

```
...
```

```
alt_ic_isr_register(PIOA_IRQ_INTERRUPT_CONTROLLER_ID,  
                   PIOA_IRQ,  
                   pioa_isr,  
                   pioa_edge_ptr,  
                   0 );
```

2 – Write an ISR for PIOA that captures the values on PIOA
identify all variables/pointers required for your ISR to work

– 50 pts

```
volatile int_u8 pioa = 0;           // global variable
void * pioa_ptr = (void *)&pioa;  // void ptr for context in isr

...

void pioa_isr(void * context){
    // cast context ptr to int
    volatile int * context_int_ptr = (int *)context

    // read register
    *context_int_ptr = IORD_ALTERA_AVALON_PIO_DATA(PIOA_BASE);

    // Clear flag
    IOWR_ALTERA_AVALON_PIO_EDGE_CAP(PIO_BASE, 0);
}
```