

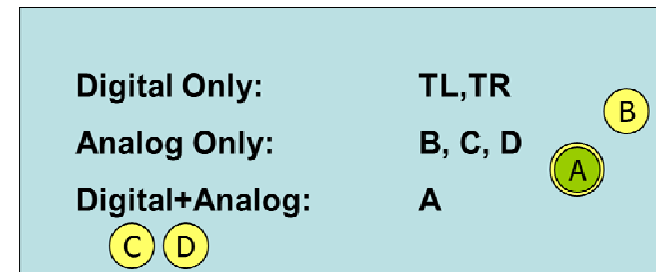
# KodeKLIX for PUP

## Digital Inputs

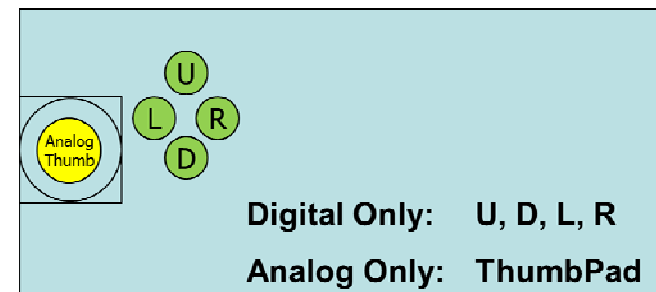


# PUP Digital Inputs

- Digital sources include
  - Button input A
  - Directional inputs U, D, L, R (where installed)
- Pre-defines exist:
  - `_PadFire` (A)
  - `_PadUp` (U)
  - `_PadDn` (D)
  - `_PadLeft` (L)
  - `_PadRight` (R)



**Button Inputs**

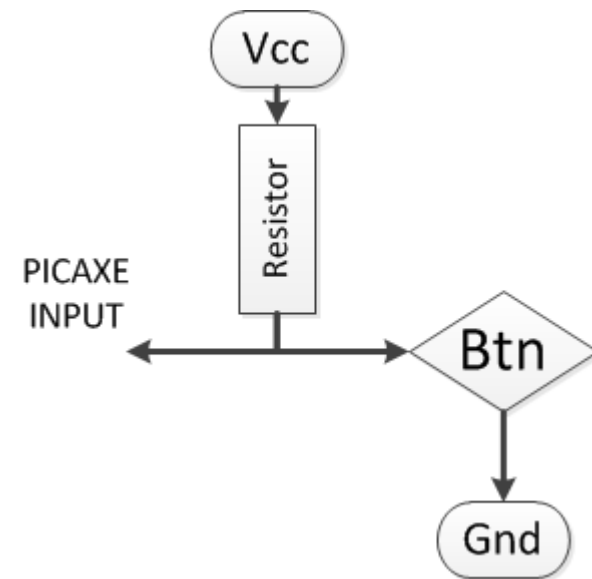


**Directional Inputs**



# Programming Digital Inputs #1

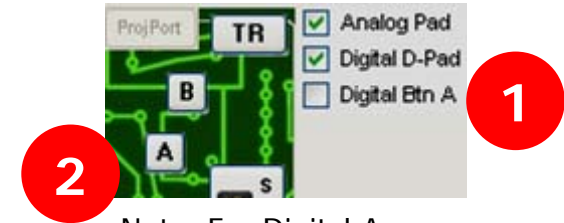
- Digital inputs have a value of 1 or 0
- Switch or Button function is
  - =1 when connected to Vcc
  - =0 when connected to Gnd
- By default, input must be pre-connected to either Vcc or Gnd (usually by resistor)





# Programming Digital Inputs #2

- To write code for a digital input, select the button from the coding interface
- Copy *default* to *custom* snippet
- Complete the application specific code as indicated
  - The test =0 detects if button is pushed
  - The test =1 detects if button is released

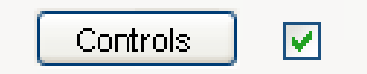


Note: For Digital-A,  
1)  option, then 2) press 'a'

```
'=====
' Check UP action, Digital ThumbPad
'=====
{
if _PadUp=0 then
'...
' user code here
'...
endif
}
```



# Programming Digital Inputs #3

- To use the code you need to enable the button by including its code...
  - Enable the “controls” routine 
  - By default, this enables all inputs
  - Advanced users can reduce code space by deleting #macros for buttons not needed in the application
- Note: `_PadUp` and `_PadDown` connected to ADC

```
=====
' Sequence in which control buttons are processed.
' Delete any which are not to be used by your app.
=====
' Analog Thumbpad controls (if installed)
=====
#padADC
#padLF
#padRT
#padUP
#padDN
'
'
' D-pad controls (if installed)
'
=====
#buttonUP ' read as analog
#buttonDN ' read as analog
#buttonLF
--
```



# Programming Digital Inputs #4

- #macros for buttons include those in this listing:

```
' =====  
' Sequence in which control buttons are processed.  
' Delete any which are not to be used by your app.  
' =====  
' Analog Thumbpad controls (if installed)  
' =====  
#padADC  
#padLF  
#padRT  
#padUP  
#padDN  
' =====  
' D-pad controls (if installed)  
' =====  
#buttonUP    ' read as analog  
#buttonDN    ' read as analog  
#buttonLF  
#buttonRT  
' =====  
#buttonDA    ' Digital button A  
' =====  
#buttonADC   ' required for multiplexed buttons  
#buttonA     ' mux A  
#buttonB     ' mux B  
#buttonC     ' mux C  
#buttonD     ' mux D  
#buttonTL    ' mux Trigger Left (if installed)  
#buttonTR    ' mux Trigger Right  
' =====
```



## Tutorial: 3.2

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- Open tutorial 3.2
- Study code snippets for:
  - Control
  - Button 'a' (select Digital Btn A checkbox)
- Connect PUP and Download program
- What happens when you press?
  - A \_\_\_\_\_