

AP CSP Unit 1 CodeX Python Code By Mission

Mission 2 – Introducing CodeX	
Import codex	<code>from codex import *</code>
Display a built-in image	<code>display.show(pics.HEART)</code>
All built-in images:	• <code>pics.HEART</code> • <code>pics.HEART_SMALL</code> • <code>pics.MUSIC</code> • <code>pics.HAPPY</code> • <code>pics.SAD</code> • <code>pics.SURPRISED</code> • <code>pics.ASLEEP</code> • <code>pics.TARGET</code> • <code>pics.TSHIRT</code> • <code>pics.PLANE</code> • <code>pics.HOUSE</code> • <code>pics.TIARA</code> • <code>pics.ARROW_N</code> • <code>pics.ARROW_NE</code> • <code>pics.ARROW_E</code> • <code>pics.ARROW_SE</code> • <code>pics.ARROW_S</code> • <code>pics.ARROW_SW</code> • <code>pics.ARROW_W</code> • <code>pics.ARROW_NW</code>
Mission 3 – Light Show	
Turn on ONE pixel (pixels are numbered 0, 1, 2, 3)	<code>pixels.set(0, GREEN)</code>
All built-in colors	BLACK YELLOW GRAY PINK BROWN GREEN WHITE LIGHT_GRAY RED BLUE CYAN DARK_GREEN ORANGE PURPLE MAGENTA DARK_BLUE
Import time to use sleep()	<code>from time import sleep</code> or <code>from time import *</code> (either will work)
Cause a pause or delay in the code	<code>sleep(1)</code> (this will pause for 1 second)
Define a variable (assign a value)	<code>delay = 1</code> or <code>color = RED</code>
Use a variable with sleep()	<code>sleep(delay)</code>
Instructions for using the debugger are included in this mission (Objectives 5 & 6)	
Defining Functions	

Define a function	<pre>10 def turn_red(): 11 color = RED 12 pixels.set(0, color)</pre>
Call a function	<pre># Main program turn_red()</pre>
Mission 3 RGB Colors	
Clear the display	<pre>display.fill(BLACK)</pre>
Clear a pixel (turn black)	<pre>pixels.set(0, BLACK)</pre>
Import random module	<pre>from random import randrange</pre>
Assign a random color (RGB)	<pre>red = randrange(256) green = randrange(256) blue = randrange(256)</pre>
Assign color from RGB	<pre>color = (red, green, blue)</pre>
Use color variable	<pre>pixels.set(0, color)</pre>
Mission 4 – Display Games	
Display a word	<pre>display.show("Ahoy")</pre>
Convert number to string	<pre>word = str(number)</pre>
Convert string to number	<pre>number = int(string)</pre>
Display a number	<pre>display.show(str(9)) display.show(str(number))</pre> Can be a literal value (9) Or a variable (number)
Display more than one line	<pre>display.print("Jack and Jill") display.print("went up a hill") display.print("to fetch a pail")</pre> use display.print() instead of display.show()

If / else statement (branching)	<pre>pressed = True if pressed: pixels.set(0, GREEN) else: pixels.set(0, RED)</pre>	Look for : and the indenting -- very important!																																				
Assign a value to a button press (True or False)	<pre>pressed = buttons.is_pressed(BTN_A) pressed = buttons.was_pressed(BTN_B)</pre>	Checks if currently pressed Checks if was pressed since last time																																				
Mission 5 – Micro Musician																																						
Play a built-in audio clip	<pre>audio.mp3("sounds/welcome")</pre>																																					
All built-in audio clips	<table><tr><td>a.mp3</td><td>eight.mp3</td><td>off.mp3</td><td>six.mp3</td></tr><tr><td>africa.mp3</td><td>five.mp3</td><td>okay.mp3</td><td>techstyle.mp3</td></tr><tr><td>b.mp3</td><td>four.mp3</td><td>on.mp3</td><td>ten.mp3</td></tr><tr><td>bohemia.mp3</td><td>funk.mp3</td><td>one.mp3</td><td>three.mp3</td></tr><tr><td>button.mp3</td><td>led.mp3</td><td>power.mp3</td><td>two.mp3</td></tr><tr><td>codetrek.mp3</td><td>left.mp3</td><td>right.mp3</td><td>up.mp3</td></tr><tr><td>codex.mp3</td><td>mic.mp3</td><td>roll.mp3</td><td>welcome.mp3</td></tr><tr><td>display.mp3</td><td>nine.mp3</td><td>seven.mp3</td><td>yes.mp3</td></tr><tr><td>down.mp3</td><td>no.mp3</td><td>shire.mp3</td><td>zero.mp3</td></tr></table>		a.mp3	eight.mp3	off.mp3	six.mp3	africa.mp3	five.mp3	okay.mp3	techstyle.mp3	b.mp3	four.mp3	on.mp3	ten.mp3	bohemia.mp3	funk.mp3	one.mp3	three.mp3	button.mp3	led.mp3	power.mp3	two.mp3	codetrek.mp3	left.mp3	right.mp3	up.mp3	codex.mp3	mic.mp3	roll.mp3	welcome.mp3	display.mp3	nine.mp3	seven.mp3	yes.mp3	down.mp3	no.mp3	shire.mp3	zero.mp3
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