Main function to call the Bridge to turn on/off switches that regulate the voltage signals sending from bridge to solenoid

SYMBOL switchPin1 = 1  
SYMBOL switchPin6 = 6  
SYMBOL pollInputPin = 7  
SYMBOL delay_time = W3  
SYMBOL delay_time1 = 120  
SYMBOL delay_time2 = 205  
SYMBOL delay_time3 = 128  
SYMBOL scale_factor = 36  
SYMBOL potPin = 2  
SYMBOL potvalue = B0  
SYMBOL i = W0  
SYMBOL j = W1  
SYMBOL k = W4  
SYMBOL Cycles = W5  
SYMBOL random_time = W2

Set up the Stamp's I/O lines
begin: LET PINS =0  
PINS7 = 1  
GOSUB Close_Valve

'POLLIN pollInputPin, 0  
'POLLOUT switchPin1, 1  
'POLLOUT switchPin6, 1  
'POLLMODE 10

Main:

DEBUG CLS, "Nothing Spotted"  
IF PIN7 = 0 THEN Time_PotCtrl  
GOTO Main  
'END
This function uses the POT command to get the input value from pin 2 and returns a value that represents the variable resistance that can be used to implement user selected time of operation.

```
Time_PotCtrl:
POT potpin, scale_factor, potvalue
random_time = potvalue
DEBUG CR, "potvalue = ", #potvalue

   ' display potvalue
IF potvalue > 0 AND potvalue < 85 THEN Cycles_2X  ' 5 minutes operation
IF potvalue > 85 AND potvalue < 135 THEN Cycles_4X  ' 10 minutes operation
IF potvalue > 135 AND potvalue < 190 THEN Cycles_6X  ' 15 minutes operation
IF potvalue > 190 AND potvalue < 223 THEN Cycles_8X  ' 20 minutes operation
IF potvalue > 223 AND potvalue < 251 THEN Cycles_10X ' 25 minutes operation
IF potvalue > 251 AND potvalue < 255 THEN Cycles_12X ' 30 minutes operation
END

'Define Cycles Variable

Cycles_2X:
   Cycles = 2  ' 2 Cycles ~ 5 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

Cycles_4X:
   Cycles = 4  ' 4 Cycles ~ 10 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

Cycles_6X:
   Cycles = 6  ' 6 Cycles ~ 15 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

Cycles_8X:
   Cycles = 8  ' 8 Cycles ~ 20 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

Cycles_10X:
   Cycles = 10 ' 10 Cycles ~ 25 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

Cycles_12X:
   Cycles = 12 ' 12 Cycles ~ 30 minutes
   DEBUG CR, "Cycles = ", #Cycles
   GOSUB Operate_X
END

'This function opens and closes the valve X number of times, where X is equal to the number of cycles.
```
Operate X times (5, 10, 15, 20, 25, & 30 minutes intervals)

Operate_X:

FOR k = 1 TO Cycles
  DEBUG CR, "Cycle = ", #k
  GOSUB Open_Valve
  DEBUG CR, "Valve Open"
  FOR j = 0 TO 120
    FOR i = 0 TO 900
      NEXT i
    NEXT j
  GOSUB Close_Valve
  DEBUG CR, "Valve Closed"
  RANDOM random_time
  random_time = random_time // 61
  'Generate a random number between 0 and 65535
  'MOD 61, to create random time delay between 0 and 60
  seconds
  DEBUG CR, "Random = ", #random_time
  FOR j = 0 TO random_time
    FOR i = 0 TO 900
      NEXT i
    NEXT j
  NEXT k
GOSUB Main

' Closes the valve

Close_Valve:

' Hold both I/O pin 4 and pin 6 low before closing the bridge
LOW 1 ' Hold pin 4 to Low
LOW 6 ' Hold pin 6 to Low
PAUSE 3000 ' Delay for 3 sec to allow solenoid to close

' Change pins state to open valve
LOW 1 ' Hold pin 4 low
HIGH 6 ' Switch pin 6 to high
PAUSE 100 ' Pause 100 ms

'This part closes the bridge
PAUSE 100 ' Delay for 100ms for the solenoid to switch state

' Hold both I/O pin 4 and pin 6 low before closing the bridge
LOW 1 ' Hold pin 4 to Low
LOW 6 ' Hold pin 6 to Low
RETURN

' Opens the valve

Open_Valve:

' Hold both I/O pin 4 and pin 6 low before closing the bridge
LOW 1 ' Hold pin 4 to Low
LOW 6 ' Hold pin 6 to Low
PAUSE 3000 ' Delay for 3 sec to allow solenoid to close

' Change pins state to open valve
HIGH 1  ' Hold pin 4 low
LOW 6  ' Switch pin 6 to high
PAUSE 100    ' Pause 100 ms

' Hold both I/O pin 4 and pin 6 low before closing the bridge
LOW 1  ' Hold pin 4 to Low
LOW 6  ' Hold pin 6 to Low

RETURN