|  |  |
| --- | --- |
| Cambridge Raspberry Jam | |
| Name |  |
| Age |  |
| Parent |  |

|  |  |
| --- | --- |
| Beginners worksheet #9 | |
| Project | Passive Inferred Sensor |
| Description | In this project you will learn how to wire and program a passive inferred sensor |

|  |  |  |
| --- | --- | --- |
| Tools required | | |
| □ Raspberry Pi SD card | □ 1 X Blue LED | □ 13 x m/f jumper wires |
| □ Keyboard | □ 2 x 330 Ω resistors | □ 5 m/m jumper wire |
| □ Monitor + Cable | □ 2 4.7k Ω resistors | □ Temperature sensor (DS18B20) |
| □ Power supply | □ Buzzer | □ LDR Light Dependent resistor |
| □ Breadboard | □ 1uf resistor | □ Passive Infrared Sensor |
| □1 X Red LED | □ Push button |  |
|  |  |  |
| D:\1_Personal\Rasberry Pi videos\Raw\10x10\Breadboard diagrams\9.png | | |

|  |
| --- |
| Code |
| TURN ON THE LEDS “9\_pir.py”  #!/usr/bin/python  import RPi.GPIO as GPIO  import time  GPIO.setmode(GPIO.BCM)  GPIO.setwarnings(False)  GPIO.setup(27,GPIO.OUT)  GPIO\_PIR = 7  print "PIR Module Test (CTRL-C to exit)"  # Set pin as input  GPIO.setup(GPIO\_PIR,GPIO.IN) # Echo  Current\_State = 0  Previous\_State = 0  try:  print "Waiting for PIR to settle ..."  # Loop until PIR output is 0  while GPIO.input(GPIO\_PIR)==1:  Current\_State = 0  print " Ready"  # Loop until users quits with CTRL-C  while True :  # Read PIR state  Current\_State = GPIO.input(GPIO\_PIR)  if Current\_State==1 and Previous\_State==0:  # PIR is triggered  print " Motion detected!"  # Record previous state  GPIO.output(27,GPIO.HIGH)  time.sleep(1)  GPIO.output(27,GPIO.LOW)  Previous\_State=1  elif Current\_State==0 and Previous\_State==1:  # PIR has returned to ready state  print " Ready"  Previous\_State=0  # Wait for 10 milliseconds  time.sleep(0.01)    except KeyboardInterrupt:  print " Quit"  # Reset GPIO settings  GPIO.cleanup() |
|  |
| 1. Change directory “cd Desktop/gpio\_python\_code/”  2. Create file “touch python 9\_pir.py”  3. Enter the code above code  Once complete “Ctrl + x” then “y” then “enter”  4. To run the python code “sudo python 9\_pir.py” << Move in front of the PIR to activate it. |