Name: Alan Bernal

Code :

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| /\*  \* HW Assignment: CPGM0  \* EEL-4746 Fall 2025  \* Alan Bernal  \* Date: 10/8/2025  \* This is my first EEL-4746 C Program  \*/  // Standard Includes  **#include** "driverlib.h"  **#include** <stdint.h>  **#include** <stdio.h>  //Include file for BCUART function  **#include** "HAL\_UART\_4746.h"  // Function Prototypes  **void** **GPIO\_init**();  bool **isPrime**(uint16\_t n);  // Main Function  **void** **main**(**void**){  //Define Local Variable  uint16\_t count;  uint16\_t i, x;  **char** buffer[100];  //WDT  **WDT\_A\_hold**(WDT\_A\_BASE);  //Initialize LED0 and set it low  **GPIO\_setAsOutputPin**(GPIO\_PORT\_P1, GPIO\_PIN0);  **GPIO\_setOutputLowOnPin**(GPIO\_PORT\_P1, GPIO\_PIN0);  //Initialize and Configure UART  **UART\_initGPIO**();  **UART\_init**();  //Activate New Port Configurations  **PMM\_unlockLPM5**();  //Writing your name  **sprintf**(buffer, "Your Name: Alan Bernal \r\n");  **UART\_transmitString**(buffer);  //Writing todays date  **sprintf**(buffer, "Today's date is 10, 8, 2025\r\n");  **UART\_transmitString**(buffer);  //Writing Course Section  **sprintf**(buffer, "My Course Section is Section 0001 \r\n");  **UART\_transmitString**(buffer);  //Turn LED ON.. done  **GPIO\_setOutputHighOnPin**(GPIO\_PORT\_P1, GPIO\_PIN0);  //CODE  **for**(i = 0; i < 11; i++){  **for**(x = 1; x <= 500; x++){  **if**(**isPrime**(x\*(1+2\*i))){  count++;  };  };  **sprintf**(buffer, "%d\r\n", count);  **UART\_transmitString**(buffer);  };  **sprintf**(buffer, "%d\r\n", count);  **UART\_transmitString**(buffer);  //Spin Loop  **while**(1){  // Nothing here.  }  }  bool **isPrime**(uint16\_t n){  uint16\_t j;  **if**(n <= 1) **return** false;  **for**(j = 2; j \* j <= n; j++) {  **if**(n % j == 0) **return** false;  }  **return** true;  }; |

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| i | 500\*(1+2\*i) | Count | Clock Cycles |
| 1 | 1500 | 94 | 736749 |
| 2 | 2500 | 95 | 932248 |
| 3 | 3500 | 96 | 1194073 |
| 4 | 4500 | 97 | 1508956 |
| 5 | 5500 | 97 | 1705377 |
| 6 | 6500 | 97 | 2111356 |
| 7 | 7500 | 98 | 2558461 |
| 8 | 8500 | 99 | 2755171 |
| 9 | 9500 | 100 | 3278326 |
| 10 | 10500 | 101 | 3839019 |