

1. Write a C program to toggle bit P1.5 10 times. Do not change any other bits.
2. Write a program to count the number of ones on P1 and store this number in P2.
3. P1 has a BCD number from 0 to 99. Write a program to convert this number to binary and put the binary result on port 2.
4. The 10-bit result of the A to D converter in the AT89C51CC03 is returned in two registers called ADDH and ADDL. ADDH holds bits 2 to 9 and ADDL holds bits 0 and 1. Write a line or two in C code which will put ADDH and ADDL together into a single integer which varies from 0 to 1023.

5. A push button switch is connected to P1.0. Pushing the switch makes P1.0 go to zero – otherwise it is one. Write a C-program which will set P2.0 to one only *after* the switch has been pushed and released.

6. Write a C-program which will generate 10 pseudo-random numbers with values 1, 2, 3, 4, 5, or 6 and send them sequentially to P1.

7. Write a C-program which looks at bit P1.0. If P1.0 is high count up on P2. Otherwise count down on P2. Run this in the simulator using the logic analyzer.