

**Department of Computer Science & Engineering**

**Microprocessor & Computer Architecture - UE20CS252**

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| **Sl. No** | **Programs** |
| **Week No.6** | 1. Write a program in ARM7TDMI-ISA to generate a diagonal matrix.  Note: do not read the matrix elements.  2. Write a program in ARM7TDMI-ISA to find the sum of all the positive  numbers in the array. Use subroutine SUMPOSITIVE for the same.  3. Write a program in ARM7TDMI-ISA to check the parity of given 32 bit  number using function subprogram PARITYCHECK. Display appropriate  messages as ODD PARITY or EVEN PARITY number.  **Student exercises:**  1. Write a program in ARM7TDMI-ISA to find the sum of all the digits in an  32bit number.  2. Write a program in ARM7TDMI-ISA to find the number of occurrences of a  given character in a string.  Example: Given string : My name is Bond.  Character : ‘n’.  Expected Output : Display 2 in a register.   * Step 1: Get number by user * Step 2: Get the modulus/remainder of the number * Step 3: sum the remainder of the number * Step 4: Divide the number by 10 * Step 5: Repeat the step 2 while number is greater than 0.   udiv r0, r6, r7 @ no, div to get quotient  *operand1* **MOD** *operand2* |

**MPCA-Laboratory/Assignment/Hands-on/Project**