**NAME : GHANASHYAM MAHESH BHAT**

**SRN : PES1UG20CS153**

**SECTION : C**

**DATE : 28/01/2022**



**Department of Computer Science & Engineering**

**Microprocessor & Computer Architecture**

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

**UE20CS252**

|  |  |
| --- | --- |
| **Sl. No** | **Programs** |
| **Week No.2** | 1. Write a program in ARM7TDMI-ISA to copy a block of N data items from Location A to Location B.  a.Use Half word(.Hword directive)  **/\*Store Halfword\*/**  **.DATA**  **A:.HWORD 10,20,30,40,50**  **B:.HWORD 0,0,0,0,0**  **.TEXT**  **LDR R1,=A**  **LDR R2,=B**  **MOV R5,#1**  **L1:**  **LDRH R3,[R1]**  **STRH R3,[R2]**  **ADD R1,R1,#2**  **ADD R2,R2,#2**  **ADD R5,R5,#1**  **CMP R5,#6**  **BNE L1**  **SWI 0X011**  b.Use Byte wise (.Byte directive)  **/\*Store Byte\*/**  **.DATA**  **A:.BYTE 10,20,30,40,50**  **B:.BYTE 0,0,0,0,0**  **.TEXT**  **LDR R1,=A**  **LDR R2,=B**  **MOV R5,#1**  **L1:**  **LDRB R3,[R1]**  **STRB R3,[R2]**  **ADD R1,R1,#1**  **ADD R2,R2,#1**  **ADD R5,R5,#1**  **CMP R5,#6**  **BNE L1**  **SWI 0X011**  2. Write a program in ARM7TDMI-ISA to find the sum of N data items in the memory. Store the result in the memory location.  a.Use Half word(.Hword directive)  **.DATA**  **A:.HWORD 10,20,30,40,50**  **SUM:.HWORD 0**  **.TEXT**  **LDR R1,=A**  **LDR R2,=SUM**  **MOV R4,#0**  **MOV R5,#1**  **L1:**  **LDRH R3,[R1]**  **ADD R4,R4,R3**  **ADD R1,R1,#2**  **ADD R5,R5,#1**  **CMP R5,#6**  **BNE L1**  **STRH R4,[R2]**  **SWI 0X011**  b. Use Byte wise (.Byte directive)  **.DATA**  **A:.BYTE 10,20,30,40,50**  **SUM:.BYTE 0**  **.TEXT**  **LDR R1,=A**  **LDR R2,=SUM**  **MOV R4,#0**  **MOV R5,#1**  **L1:**  **LDRB R3,[R1]**  **ADD R4,R4,R3**  **ADD R1,R1,#1**  **ADD R5,R5,#1**  **CMP R5,#6**  **BNE L1**  **STRB R4,[R2]**  **SWI 0X011** |