**PROGRAM 3**

**Write a program to find the factorial of a number.**

**AREA FACT, CODE, READONLY**

**START**

**MOV R0,#5**

**MOV R1, #1**

**CMP R0, #0**

**BEQ STOP**

**MOV R1, R0**

**NEXT SUBS R0, #1**

**CMP R0, #0**

**BEQ STOP**

**MUL R2,R1,R0**

**MOV R1,R2**

**B NEXT**

**STOP**

**NOP**

**END**

PROGRAM 4

Write a program to add an array of 16 bit number and store result in 32 bit RAM.

AREA ADDITION, CODE, READONLY

ENTRY

START

LDR R0,=ARRAY

LDR R5,=SUM

MOV R1,#0

MOV R4,#0

NEXT CMP R1,#10

BEQ STORE

LDRH R3,[R0],#2

ADC R4,R4,R3

ADD R1,R1,#1

LOOP B NEXT

STORE STR R4,[R5]

STOP B STOP

AREA DATASEG1, DATA, READONLY

ARRAY DCW 0x0011,0x0022,0x0033,0x0044,0x0055,0x0066,0x0077,0x0088,0x0099,0x00AA

ALIGN

AREA DATASEG2, DATA

SUM DCD 0

END

**PROGRAM 5**

**PROGRAM 5**

**Write a program to find the square of a number (1 to 10) using a look-up table.**

**area square, code, readonly**

**entry**

**start**

**ldr r0,=table1**

**ldr r1,=7**

**mov r1,r1,lsl#0x2**

**add r0,r0,r1**

**ldr r3,[r0]**

**xss b xss**

**table1 DCD 0X00000000**

**DCD 0X00000001**

**DCD 0X00000004**

**DCD 0X00000009**

**DCD 0X00000010**

**DCD 0X00000019**

**DCD 0X00000024**

**DCD 0X00000031**

**DCD 0X00000040**

**DCD 0X00000051**

**DCD 0X00000064;**

**area data1,data,readwrite**

**result DCD 0X00000000**

**end**