01) ADDITION AND MULTIPLICATION AND SUBSTRACTION OF TWO 32-BIT NUMBERS

```
 AREA MULTIPLY,CODE,READONLY
      ENTRY
            mov R0,0x0002
            mov R1,0x0003
            MUL R2,R0,R1
STOP B STOP
        END
```

```
 AREA SUBTRACT,CODE,READONLY
      ENTRY
            mov R3,#0x0003
            mov R4,#0x0001
            SUB R5,R3,R4
STOP B STOP
        END
```

```
AREA ADDITION,CODE,READONLY
      ENTRY
            mov R6,#0x0004
            mov R7,#0x0003
            ADD R8,R6,R7
STOP B STOP
        END
```

---

02) ALP TO ADD 10 NUMBERS

```
  AREA ADDITION,CODE,READONLY
START MOV r5,#10
                    mov r0,#0
                    mov r1,#1
loop                ADD r0,r0,r1
                    add r1,r1,#1
                    subs r5,r5,#1
                    cmp r5,#0
                    bne loop
                    ldr r4,=result
                    str r0,[r4]
xss                   b xss

            area  data2,data,readwrite
result                dcd 0x0
                    END
```

03) ALP TO ADD ARRAY OF 16-BIT NUMBER FROM ARRAY AND STORE IN 32-BIT

```
AREA ADDITION,  CODE, READONLY
start    MOV R5,#3

         MOV R0,#0

          LDR R1,=VALUE1

LOOP     LDR R2,[R1],#2

         LDR R3, MASK

         AND R2, R2,R3

         ADD RO, RO,R2

         SUBS R5, R5,#2

         CMP R5,#0

         BNE LOOP

         LDR R4,=RESULT

         STR R0,[R4]

XSS      B     XSS
mask      dcd 0x0000ffff

value1   dcw 0x1111,0x2222,0x4444

          area data2,data,readwrite

result    dcd 0x0

           END
```

Program 4:

```
AREA FIBN,CODE,READONLY
START
        mov r0,#10;
  mov r1,#0;
  mov r2,#1;
  LDR r5,=result_array
  STR r1,[r5],#4;
  STR r2,[r5],#4;
loop
        ADD r3,r1,r2;
        STR  r3,[r5],#4;
        mov r1,r2;
        mov r2,r3;
        SUBS r0,r0,#1;
        CMP r0,#0
        BNE loop;
        DONE B DONE;
  AREA DATA1,DATA,READWRITE
  result_array DCD 0x0000
  END
```

Program 5:

```
AREA SQUARE,CODE,READONLY
START
        LDR r0,=table 1
        LDR r1,r1,|5|#0X2
        Add r0,r0,r1;load address of element in look up table
        LDR r3[r0];get source of given on in r3
        RSS BXSS
Table 1 DCD 0X00000000
        DCD 0X00000001
        DCD 0X00000004
        DCD 0X00000009
        DCD 0X00000010
        DCD 0X00000019
        DCD 0X00000024
        DCD 0X00000031
        DCD 0X00000040
        DCD 0X00000051
        DCD 0X00000661;
        Area
Data1,data,readwrite
Result DCD 0X00000000
End
```