Section 4.1

8:

Macro	Subroutine
(1) the statement of expansion are generated each time when the macro are invoked (2) the program size is larger (3) the performance is better	(1) the statement in subroutine appear once (2) the program size is smaller (3) the performance is worse

Section 4.2

6.

(a) RDBUFF F1, BUFFER, LENGTH, 00, 1024

```
                CLEAR X
                CLEAR A
                LDCH =X'00'
                ROM A,S
                +LDT #1024
$AALOOP         TD =X'F1'
                JEQ $AALOOP
                RD =X'F1'
                COMPR A,S
                JEQ $AAEXIT
                STCH BUFFER, X
                TIXR T
                JLT $AALOOP
$AAEXIT         STX LENGTH
```

(b) LOOP RDBUFF F2, BUFFER, LTH

```
                CLEAR X
                CLEAR A
                +LDT #4096
$AALOOP         TD =X'F2'
                JEQ $AALOOP
                RD =X'F2'
                STCH BUFFER, X
```

```
                TIXR T
                JLT $AALOOP
$AAEXIT         STX LTH
```

12.

(a) RDBUFF F1, BUFFER, LENGTH, (04, 12)

```
                CLEAR X
                CLEAR A
                +LDT #4096
$AALOOP         TD =X'F1'
                JEQ $AALOOP
                RD =X'F1'
                COMPR =X'000004'
                JEQ $AAEXIT
                COMPR =X'000012'
                JEQ $AAEXIT
                STCH BUFFER, X
                TIXR T
                JLT $AALOOP
$AAEXIT         STX LENGTH
```

(b) LABEL RDBUFF F1, BUFFER, LENGTH, 00

```
                CLEAR X
                CLEAR A
                +LDT #4096
$AALOOP         TD =X'F1'
                JEQ $AALOOP
                RD =X'F1'
                COMPR =X'000000'
                JEQ $AAEXIT
                STCH BUFFER, X
                TIXR T
                JLT $AALOOP
$AAEXIT         STX LENGTH
```

%NITEMS(&EOR) = 1

(c) RDBUFF F1, BUFFER, LENGTH

```
                CLEAR X
                CLEAR A
                +LDT #4096
$AALOOP         TD =X'F1'
                JEQ $AALOOP
                RD =X'F1'
                STCH BUFFER, X
                TIXR T
                JLT $AALOOP
$AAEXIT         STX LENGTH
```

%NITEMS(&EOR) = 0