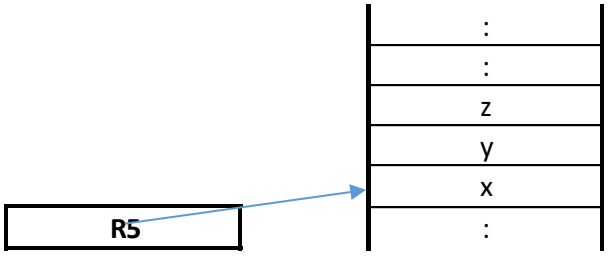
Example page 348-49, Patt & Patel

```
int x,  y,  z;
if  (  x  != 0 )
{
        y++;
        z--;
}
else
{
        y--;
        z++;
}
```

SYMBOL	SCOPE	ADDRESSING	
		Base Reg.	Offset
x	main()	**R5**	0
y	main()	**R5**	-1
z	main()	**R5**	-2




```
        LDR     R0, R5, #0
        BRZ     ELSE
IF
        LDR     R0, R5, #-1
        ADD     R0, R0, #1
        STR     R0, R5, #-1     ;y++
        LDR     R0, R5, #-2
        ADD     R0, R0, #-1
        STR     R0, R5, #-2     ;z--
        BRNZP   DONE
ELSE
        LDR     R0, R5, #-1
        ADD     R0, R0, #-1
        STR     R0, R5, #-1     ; y—
        LDR     R0, R5, #-2
        ADD     R0, R0, #1
        STR     R0, R5, #-2     ;z++
DONE
```

Example page 351-52, Patt & Patel

```
int  x  =  0;
while  ( x  <  10 )
{
        printf("%d ", x);
        x  =  x  +  1;
}
```

```
        AND     R0, R0, #0
        STR     R0, R5, #0              ;x = 0
WHILE
        LDR     R0, R5, #0
        ADD     R0, R0, #-10
        BRZP    EXIT                    ;exit if x >= 0
        :
        : code for printf("%d ", x);
        :
        LDR     R0, R5, #0
        ADD     R0, R0, #1
        STR     R0, R5, #0              ;x = x + 1
        BRNZP   WHILE                   ;goto top of loop
EXIT
```

```
for ( Initialization;   Continuation_Test;  Update)
{
        Loop_Body
}


Initialization
while ( Continuation_Test  )
{
        Loop_Body
        Update
}
```