Quadruples

An Example: sum := sum + value

Operation	Operand	Operand	Result
+	**sum**	**value**	**i1**
:=	**i1**		**sum**

Array Element Address Calculations

Array address calculation method for row-major order:

Row 0 Row 1 Row 2 Row 3 Row 4 …..

Given the Array declaration: ARRAY [lower1 .. upper1, lower2 .. upper2] INTEGER

The address of Array element ARRAY [s1, s2] is calculated:

W * [(s1 - lower1) * (upper2 - lower2 + 1) + (s2 - lower2)]

where W is INTEGER Word size in bytes, (MIPS = 4).

Given the array address calculation method above, and this Array declaration:

X,Y : ARRAY [1..12,3..19] INTEGER

Generate the quadruples for this program code fragment:

Note: K is an integer variable declared elsewhere

```
FOR I :=  1 TO 12 DO
    X[I,3*K+1] := Y[I, 3*K]
```

Note that : The quadruples (about 20) are created as the fragment is parsed.

[50 points]