**CECS 524 Unit 6 Assignment**

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Using the programming language of your choice, implement the expression for computing array addresses for 2-dimensional arrays of any element size and any arbitrary lower and upper bounds. This is the expression

location(a[i, j]) = address of a[row\_lb, col\_lb] - (((row\_lb \* n)+ col\_lb) \* element\_size) + (((i \* n) + j) \* element\_size)

**Code:**

**package** unit6;

**public** **class** ComputeAddress {

**public** **static** **void** main(String[] args) {

*calcAddress*(1200, 0, 0, 2, 2, 1);

*calcAddress*(100, 1,1,2,2,2);

*calcAddress*(100, 2, 3, 4,5,4);

*calcAddress*(100, -1, -1, 1, 2, 8);

}

**public** **static** **void** calcAddress(**int** base,**int** rowlb,**int** collb,**int** rowub,**int** colub,**int** elementsize)

{

**int** a[]=**new** **int**[] {base,rowlb,collb,rowub,colub,elementsize};

//System.out.println(a.length);

System.***out***.println("For array a["+rowlb+":"+rowub+","+collb+":"+colub+"] with element size "+elementsize);

**for**(**int** i=rowlb;i<=rowub;i++)

{

**for**(**int** j=collb;j<=colub;j++)

{

**int** n=colub-collb+1;

**int** loc=base - (((rowlb \* n)

+ collb) \* elementsize) + (((i \* n) + j) \* elementsize);

System.***out***.println("a["+i+","+j+"] address = "+loc);

}

}

}

}

**Output:**

Graphical user interface, text, application

Description automatically generated