1．描述以下循环中的存在依赖关系(包括迭代对、依赖类型、依赖向量和距离向量)

```
for I = 1 to 100 do
    for J = 1 to 100 do
        A(I,J) = B(I+4,J-2) - B(I-2,J+1) + B(I,J+3);
        B(I,J) = D(I,J-1) - C(I+2,J)
    endfor
endfor
```

2．分析循环②是否分别与循环③、④和⑤等价？

循环②:

```
for I = 1 to 100 do
    for J = 4 to 100 do
        A(I,J) = A(I-1,J+1)
    endfor
endfor
```

循环③:

```
for J = 4 to 100 do
    for I = 1 to 100 do
        A(I,J) = A(I-1,J+1)
    endfor
endfor
```

循环④:

```
for I = 1 to 100 do
    doall J = 4 to 100 do
        A(I,J) = A(I-1,J+1)
    enddoall
endfor
```

循环⑤:

```
doall I = 1 to 100 do
    for J = 4 to 100 do
        A(I,J) = A(I-1,J+1)
    endfor
enddoall
```

3 （1）给出下面循环中的依赖关系描述和迭代依赖图。

```
for I = 1 to 8 do
    for J = max(I-3,1) to min(I,5) do
        A(I+1, J+1) = A(I,J) + B(I,J)
    endfor
endfor
```

（2）分析下面循环中存在的数据依赖关系。

```
for I = 2 to 9 do
    if A(I) > 0 then
        A(I) = B(I-1) + 1
    else
        B(I) = A(I) * 2
    endif
endfor
```