

For the following code, analyze the nested loop, and describe all loop carried dependencies. How would you implement parallelization for this problem?

```
#define N 100

int main(int argc, char ** argv) {
    int it;
    int ix;
    double x[N];
    double y[N];

    x[0]=0;
    x[N-1]=10;

    for(it = 0; it<10; it++) {
        for(ix=1; ix<N-1; ix++) {
            y[ix]=0.5*(x[ix-1]+x[ix+1]);
        }
        for(ix=1; ix<N-1; ix++) {
            x[ix]=0.5*(y[ix-1]+y[ix+1]);
        }
    }
}
```