

Monitor readerwriter

```
{
    int readcount, writecount;
    condition rmutex, wmutex;
    public:
        void startread( ){
            if(writecount==1)
                cwait(rmutex);
            readcount++;
            csignal(rmutex);
        }

        void endread( ){
            readcount--;
            if(readcount==0)
                csignal(wmutex);
        }

        void startwrite( ){
            if(readcount>0 || writecount==1)
                cwait(wmutex);
            writecount=1;
        }

        void endwrite( ){
            writecount=0;
            if(rmutex!=NULL)
                csignal(rmutex);
            else
                csignal(wmutex);
        }
        {readcount=0; writecount=0;}
}RW;

void Readers( ){
    while(true){
        RW.startread( );
        reading
        RW.endread( );
    }
}

void Writers( ){
    while(true){
```

```
        RW.startwrite( );
        writing
        RW.endwrite( );
    }
}
```

```
void main( ){
    cobegin
        Readers();
        Writers();
    coend
}
```