

[1] Problem czytelników i pisarzy - pref. czytelnicy

```

semaphore mutex = 1;
semaphore db = 1;
int rc = 0;

void
writer( void )
{
    while( TRUE )
    {
        think_up_data( );
        down( &db );
        write_data_base( );
        up( &db );
    }
}

void
reader(void)
{
    while( TRUE )
    {
        down( &mutex );
        rc = rc + 1;
        if( rc == 1 )
            down( &db );
        up( &mutex );
        read_data_base( );
        down( &mutex );
        rc = rc - 1;
        if( rc == 0 )
            up( &db );
        up( &mutex );
        use_data_read( );
    }
}

```

[2] Problem czytelników i pisarzy - preferowani pisarze

```

semaphore mutex = 1, mw = 1, m = 1, db = 1, r = 1;
int rc = 0, wc = 0;

void writer( void ) {
    while( TRUE ) {
        think_up_data( );
        down( &mw );
        wc = wc + 1;
        if( wc == 1 )
            down( &r );
        up( &mw );
        down( &db );
        write_data_base( );
        up( &db );
        down( &mw );
        wc = wc - 1;
        if( wc == 0 )
            up( &r );
        up( &mw );
    }
}

void reader(void) {
    while( TRUE ) {
        down( &m ); down( &r );
        down( &mutex );
        rc = rc + 1;
        if( rc == 1 )
            down( &db );
        up( &mutex );
        up( &r ); up( &m );
        read_data_base( );
        down( &mutex );
        rc = rc - 1;
        if( rc == 0 )
            up( &db );
        up( &mutex );
        use_data_read( );
    }
}

```