

CE94930 — Introduction to Visual BASIC

- Last week
- File I/O overview
- Mouse operations & graphics

Last week...

- Adapting programs as dialogues
- Lists -- lots of code

Simple File I/O

- Sequential and random-access
- “ASCII delimited”
- Character-stream and fixed-length records
- No advanced access methods

I/O operations

- Open, close, read, write, seek
- File modes: input, output, append, random and binary
- Network access: read only, write only, read write
- File locking: shared, lock read, lock write, lock read write

Opening a file

- Example:

`file_num = FreeFile`

`open "myfile.txt" for input access read lock write as #file_num`

Random access

- Fixed-length records
- Functions get, put (records or characters)
- Seek (record or character)
- Fixed-length strings, user-defined types
- Len function

User-defined types

- C struct or Pascal record
- Example:
type person
 name as string*50
 phone_number as string*12
 age as integer
end type
- length is 64

Delimited sequential files

- Input, output, append
- input vs input #
- print # vs write #
- Example:

Writing a file

- `dim file_num as integer`
`dim name_resp as string, ph_resp as string`

```
file_num = FreeFile
```

```
open "rolodex.txt" for output access write lock read  
write as #file_num
```

```
name_resp = InputBox$( "Name?" )
```

```
ph_resp = InputBox$( "Phone number"
```

```
write #file_num, name_resp, ph_resp
```

```
close #file_num
```

- **File record appears as:**
`"Trevor Grove", "519 888 4679"`

Reading a file

- dim name_in as string, ph_in as string

```
file_num = FreeFile
```

```
open "rolodex.txt" for input access read lock write as  
#file_num
```

```
input #file_num, name_in, ph_in
```

```
do while not Eof( file_num )
```

```
    ' process
```

```
    input #file_num, name_in, ph_in
```

```
loop
```

```
close #file_num
```

Mousing & graphics

- Mouse down, up, move
- Interactive graphic indicators

PictureBox object

- Display images (like Image)
- Methods: line, circle, pset, point, cls
- CurrentX, CurrentY
- AutoRedraw property
- Sample

PB sample

- create PB, set autoredraw, line to 1000,1000, QB(1..6)
- use help to get syntax
- add “b” to make box; add “f” to fill
- add button that tacks on small box: “-step(50,50), b)
- experiment with box size; reset currenty
- demonstrate no autoredraw

Mouse events -- down

- MouseDown on specific object, captures subsequent mouse events
- Sub *control_MouseDown* (Button As Integer, Shift As Integer, X As Single, Y As Single)
- Typically used to initialize operations
- Example

Mouse events - up

- Occurs when button released
- Sequence: down, click, up, dblclick
- Used to finish/restore/terminate operations
- Sub *control_MouseUp* (Button As Integer, Shift As Integer, X As Single, Y As Single)
- Example

Mouse events -- move

- Occur whenever mouse positioned over object
- Typically use state indicator to decide relevance of event

Of mice and methods

- Combine graphical methods with mouse operations
- Examples

Line stretching

- Colour XORing -- DrawMode
- DrawStyle -- solid, dotted, dashed
- Example

Summary

- VB file processing
- Graphics methods of PictureBox, Form
- Mouse operations