iPhone App Dev

Lesson 8

Source Codes

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Contact

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Final Project Resource

- Drop box : https://db.tt/Sq4ytc2V

Summary

- Concurrency Programming
- Library Resource - SQLite

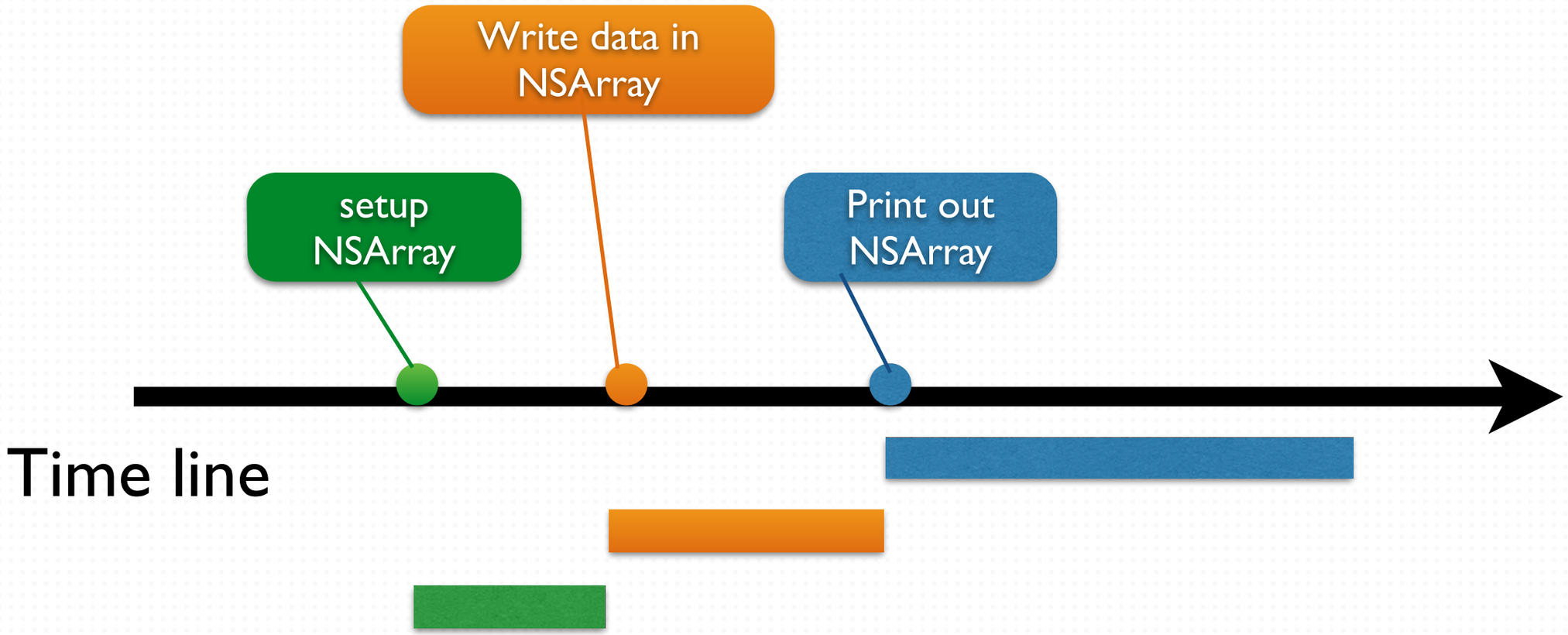
Web view

- Question?

Concurrency Programming

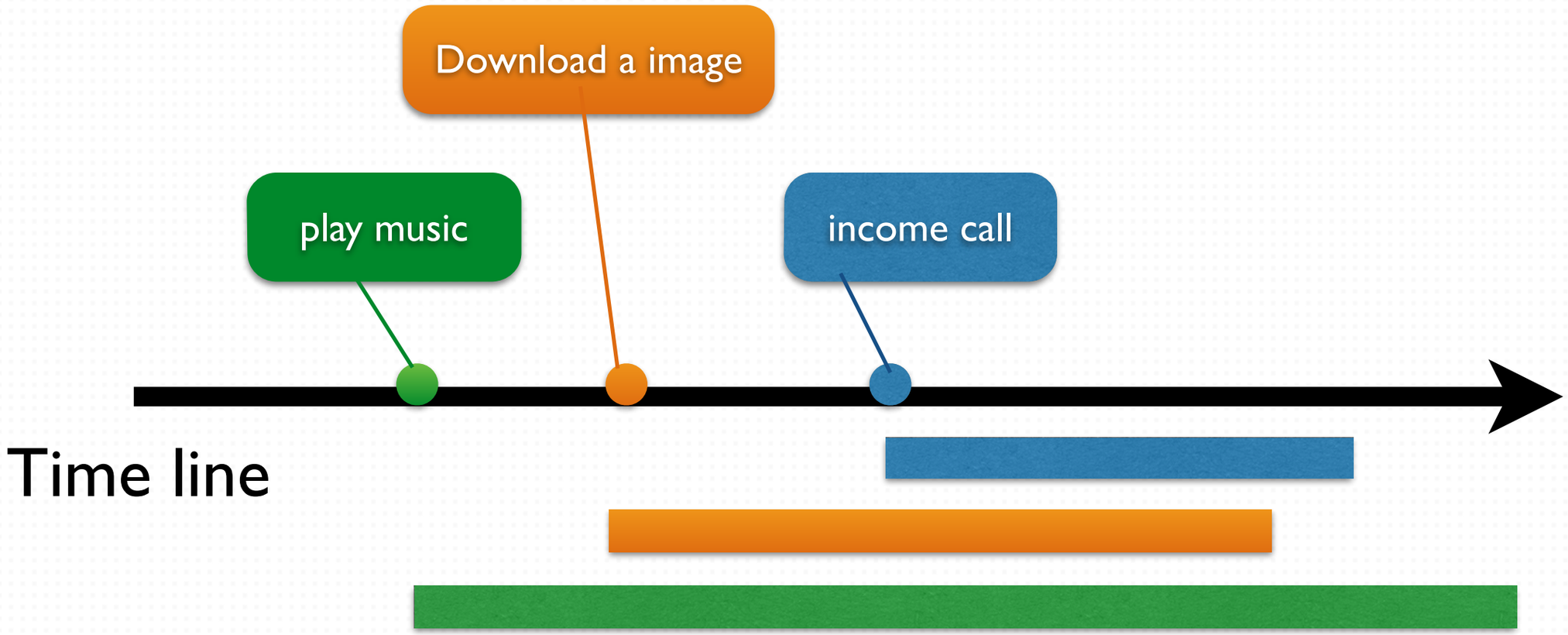
Concurrency Programming

- How we finish task in coding



Concurrency Programming

- Working on difference task at the same time

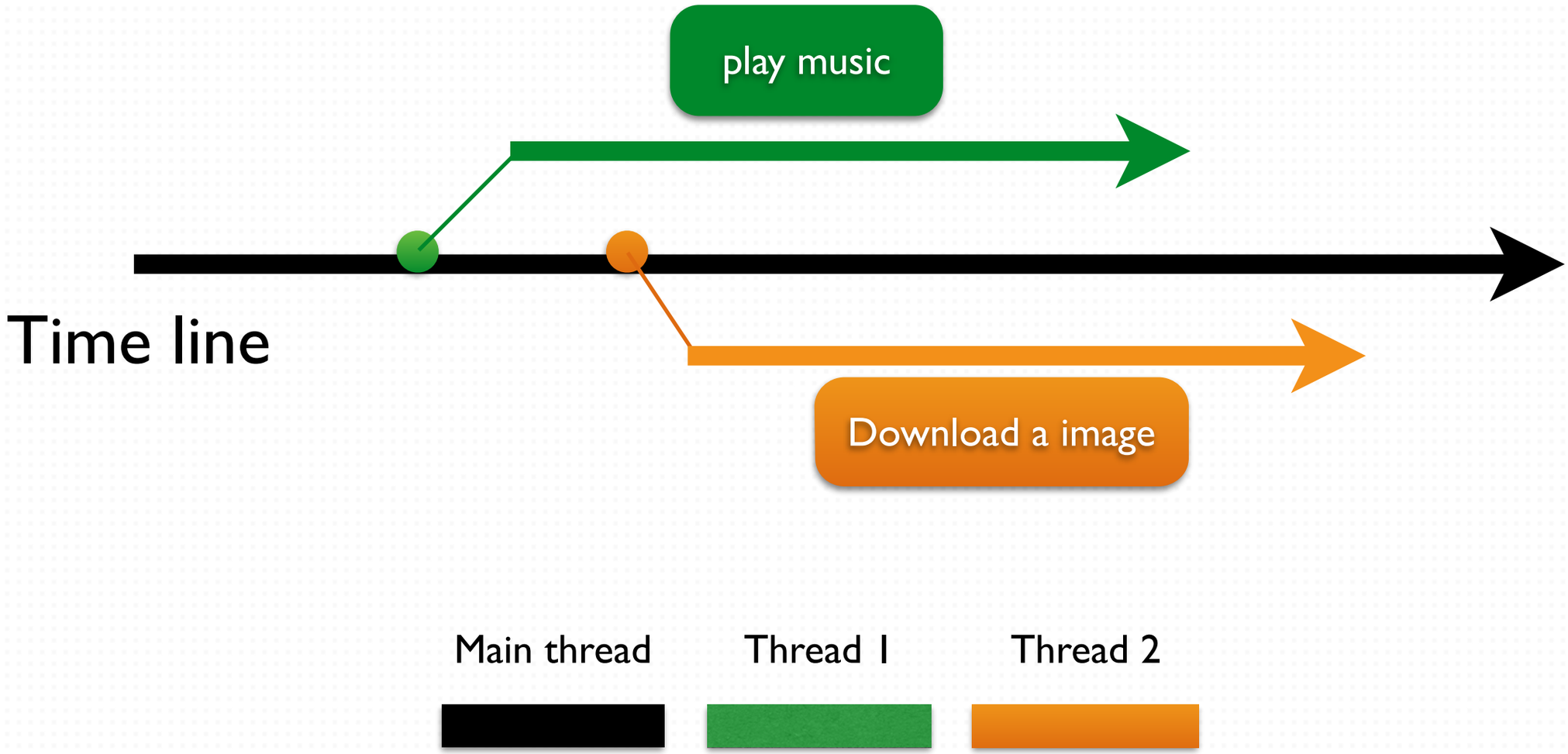


Concurrency Programming

- Use thread
- Use Grand Central Dispatch (GCD)

Concurrency Programming

- Spawn a thread



Concurrency Programming

- Use NSThread

- Use NSThread class method

```
[NSThread detachNewThreadSelector:@selector(myThreadMainMethod:) toTarget:self withObject:nil];
```

- Create a NSThread

```
NSThread* myThread = [[NSThread alloc] initWithTarget:self
                                             selector:@selector(myThreadMainMethod:)
                                             object:nil];
[myThread start];  // Actually create the thread
```

Concurrency Programming

- Dispatch queue

Dispatch queue

Concurrency Programming

- Three type of dispatch queue
  - ✓Serial
  - ✓Concurrent
  - ✓Main dispatch queue

Serial

- Private dispatch queues
- Execute one task at a time
- In the order

Concurrent

- Global dispatch queue
- Execute one or more tasks concurrently
- In the order

Main dispatch queue

- Globally available serial queue
- Execute on main thread

Concurrency Programming

- Use Serial queue

```
dispatch_queue_t processQueue = dispatch_queue_create("PROCESS_QUEUE", NULL);

dispatch_async(processQueue, ^{
        //Do something
}
```

- Use concurrent queue

```
dispatch_queue_t processQueue =
dispatch_get_global_queue(DISPATCH_QUEUE_PRIORITY_DEFAULT, 0);

dispatch_async(processQueue, ^{
        //Do something
}
```

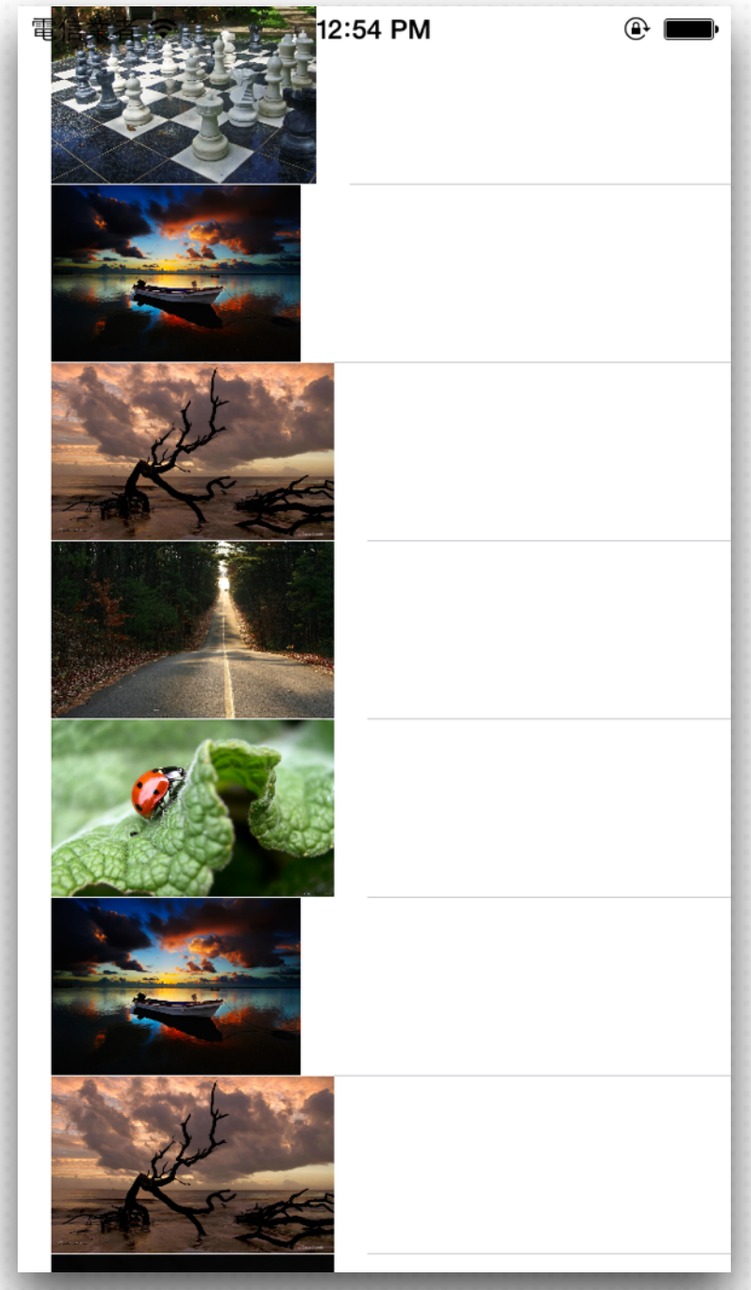
Concurrency Programming

- Use Main dispatch queue

```
dispatch_queue_t processQueue = dispatch_get_main_queue();

dispatch_async(processQueue, ^{
        //Do something
}
```

Load images on tableview



Library Resource

Library Resource

- Library Resource

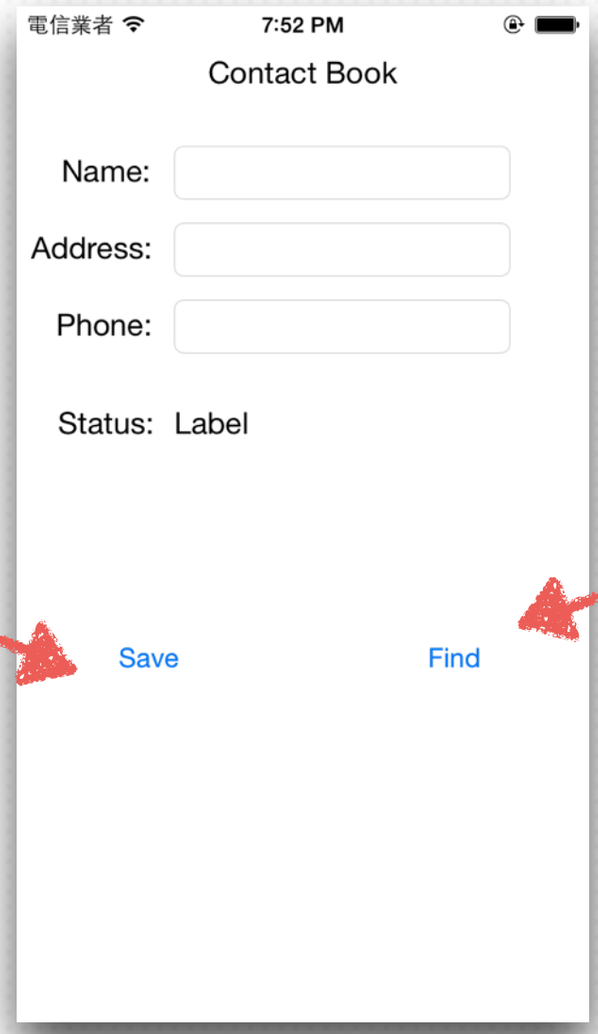
✓libsqlite
✓libxml
✓libform

Library Resource

- Example: libsqlite
  - ✓Create a sqlite database file
  - ✓Create a table in database
  - ✓Create a new row data in table
  - ✓Make a Query for data request

Library Resource

- Demo : Contact book



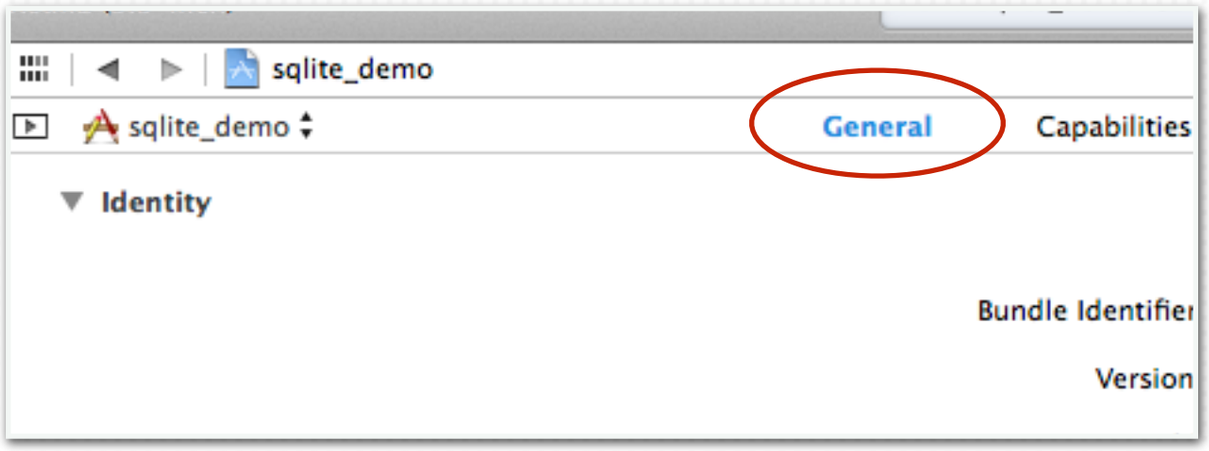
Save contact information to DB

Find contact information from DB

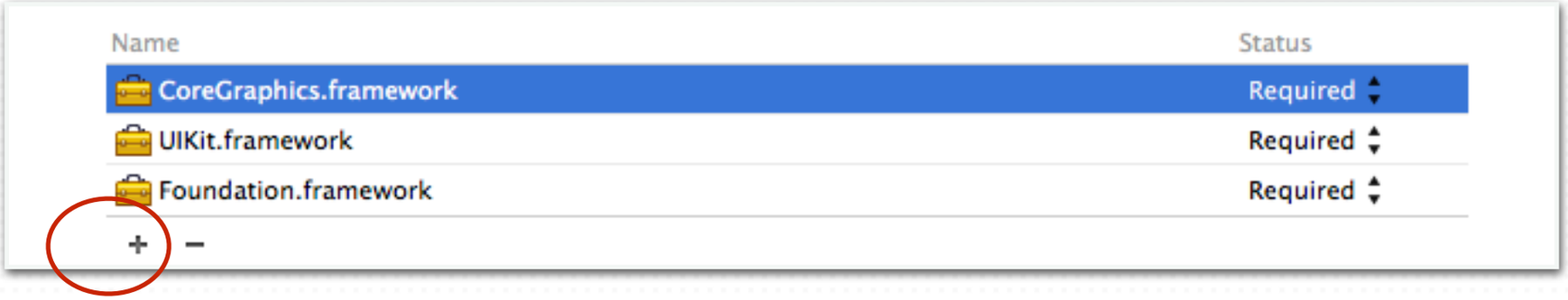
Library Resource

- Add library to project

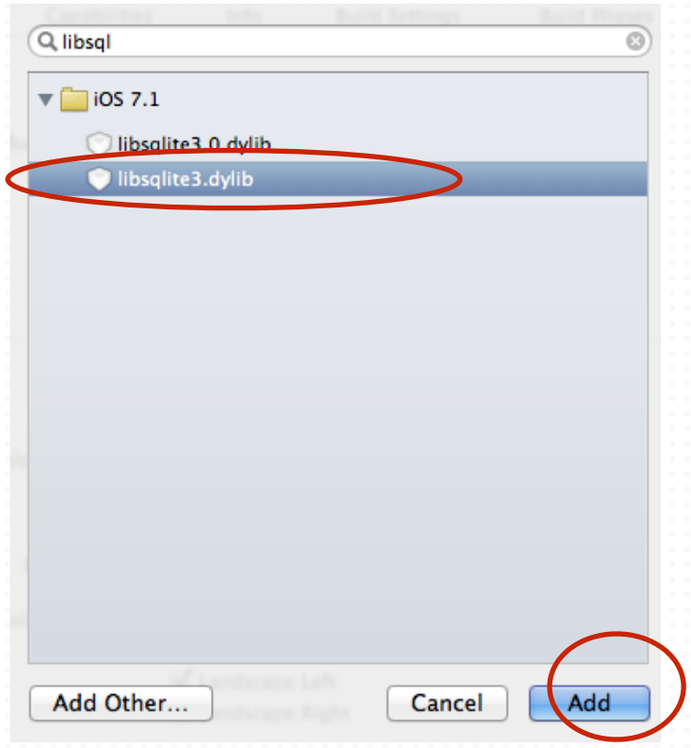
Step1:



Step2:



Step3:



Library Resource

- Create a database in **"NSDocumentDirectory"**

Place at "*root/Documents/*"

```
// Get the documents directory
NSArray *dirPaths = NSSearchPathForDirectoriesInDomains(NSDocumentDirectory, NSUserDomainMask, YES);

NSString *docsDir = dirPaths[0];

// Build the path to the database file
_databasePath = [[NSString alloc]
                 initWithString: [docsDir stringByAppendingPathComponent:
                                  @"contacts.db"]];
```

You can define a db name by yourself

Library Resource

- Open and close a database

```
sqlite3_open(dbpath, address_DBObject)
 Reture SQLITE_OK : open success
 Reture SQLITE_FAIL : open fail
```

```
sqlite3_close(DBOjbect);
```

Library Resource

- Execute a query : To create a table

```
const char *sql_stmt =
    "CREATE TABLE IF NOT EXISTS CONTACTS (ID INTEGER PRIMARY KEY
AUTOINCREMENT, NAME TEXT, ADDRESS TEXT, PHONE TEXT)";

 if (sqlite3_exec(DBObject, sql_stmt, NULL, NULL, &errMsg) !=  SQLITE_OK)
 {
       //Do something
 }
```

Library Resource

- Execute a query : Add a new row data

```
 sqlite3_stmt    *statement;

 NSString *insertSQL = [NSString stringWithFormat: @"INSERT INTO CONTACTS
(name, address, phone) VALUES (\"%@\", \"%@\", \"%@\")", _name.text,
_address.text, _phone.text];

 const char *insert_stmt = [insertSQL UTF8String];

 sqlite3_prepare_v2(DBObject, insert_stmt, -1, &statement, NULL);

 if (sqlite3_step(statement) == SQLITE_DONE)
 {
      //do something
 }

 sqlite3_finalize(statement);
 sqlite3_close(DBOjbect);
```

Library Resource

- Execute a query : Extract data from table

```
 NSString *querySQL = [NSString stringWithFormat: @"SELECT address, phone FROM contacts
WHERE name=\"%@\"", _name.text];

 const char *query_stmt = [querySQL UTF8String];

if (sqlite3_prepare_v2(_contactDB, query_stmt, -1, &statement, NULL) == SQLITE_OK){
   if (sqlite3_step(statement) == SQLITE_ROW)
   {
        NSString *Field0 = [[NSString alloc]
                                    initWithUTF8String: (const char *)
                                    sqlite3_column_text(statement, 0)];

        NSString *Field1 = [[NSString alloc]
                                    initWithUTF8String:(const char *)
                                    sqlite3_column_text(statement, 1)];

   }
   sqlite3_finalize(statement);
}
```