CS3431: Pro*C/Oracle Instruction

1 Setup

1. To use Pro*C, you must connect to *CCC.WPI.EDU*

2. Setup Pro*C:

"source /usr/local/bin/mngoraenv" which defines the library path.

3. Setup Oracle:

Put the following into your ~/.cshrc file

```
setenv ORACLE_BASE /usr/local/oracle/app/oracle
setenv ORACLE_HOME ${ORACLE_BASE}/product/9.2.0.1
setenv PATH ${PATH}:${ORACLE_HOME}/bin
setenv ORACLE_SID cs
setenv TWO_TASK ${ORACLE_SID}
```

Run source .cshrc

2 Sample Pro*C/Oracle Code

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sqlca.h>

void sql_error(char *msg)
{
   printf("%s", msg);
   exit(1);
}
int main()
{
   char temp_char[32];

   //declear host variables
   EXEC SQL BEGIN DECLARE SECTION;
   VARCHAR username[32];
   VARCHAR password[32];
   VARCHAR str[33];
   EXEC SQL END DECLARE SECTION;
```

```
    //Copy the username and password into the VARCHAR.
    strncpy((char *) username.arr, "YOUR_USERNAME", 32);
    username.len = strlen((char *) username.arr);
    strncpy((char *) password.arr, "YOUR_PASSWORD", 32);
    password.len = strlen((char *) password.arr);

    //Register sql_error() as the error handler.
    EXEC SQL WHENEVER SQLERROR DO sql_error("ORACLE ERROR: \n");
    //Connect to ORACLE.    Program will call sql_error()
    //if an error occurs when connecting to the default database.
    EXEC SQL CONNECT :username IDENTIFIED BY :password;
    printf("\nConnected to ORACLE as user: %s\n", username.arr);

    //create a table
    EXEC SQL CREATE TABLE hello (message varchar(32));
    //insert data
    EXEC SQL INSERT INTO hello VALUES ('Hello World!');

    //query the db
    EXEC SQL DECLARE tmp CURSOR FOR SELECT message FROM hello;
    EXEC SQL OPEN tmp;
    EXEC SQL WHENEVER NOT FOUND DO break;
    for (;;)
    {
        EXEC SQL FETCH tmp INTO :str;
        str.arr[str.len] = '\0';
        printf("%s\n", str.arr);
    }
    EXEC SQL CLOSE tmp;
    // Disconnect from ORACLE
    EXEC SQL COMMIT WORK RELEASE;
    exit(0);
}
```

3 Compile and Execute

Pre-compile: $ORACLE_HOME/bin/proc iname=sample.pc code=cpp parse=none
Compile:

```
g++ -I$ORACLE_HOME/precomp/public/  sample.c -L$ORACLE_HOME/lib/ -lclntsh -lm
```

Execute:

```
./a.out
```

4 Some Other Resources

http://www-db.stanford.edu/~ullman/fcdb/oracle/or-proc.html