Lab 1 - developing programs in JGrasp.

Follow the instructions EXACTLY as stated. Please do this lab exercise one step at a time, and understand each step before moving on to the next. Make sure your results match the instructions. Although Lab 1 will not be graded, some future labs will be, and you should practice submitting this lab to UB Learns.

Before coming to lab, make sure you have a UB account. If you have trouble logging in during a lab session: (as per

http://www.sens.buffalo.edu/assistance/getting_started/#Password):

Your initial password is your person number, 8 digits without any punctuation. The link for seeking access is

http://www.sens.buffalo.edu/accounts/

1. If you're doing this in the Lab or any of the CSE Labs (Bell 101, Bell 340, etc.) / PC/Mac Instructions start at #2.

- **1.1**. Log into your computer and create a Terminal session. Here are two ways to bring up a terminal:
 - 1. Right click on an empty space on your desktop and select "Open Terminal" from the menu.
 - 2. Click on the "Accessories" menu, then click on "Terminal".

You will see a terminal window that will look like this (the words you see may be different, but you will get a prompt ">"):



1.2. In the terminal, type

jgrasp &

and hit the enter key. As below.



You "might" get the following error. Just ignore it.



- If you're doing this on a Mac or Windows PC, start up JGrasp. You should have followed the class instructions for installing JGrasp, the Java JDK, and the C++ compiler at http://www.cse.buffalo.edu/~mikeb/EAS230Instructions2.htm
- 3. JGrasp should start up



4. Select *File - New – C++* an editable file should show up on the right side



In the file edit window, type everything exactly as it appears:

```
#include <iostream>
using namespace std;
int main()
{
  cout << "hello" << endl;
}</pre>
```

It should look like this:



5. When you're finished typing it in, save it to a file named *Lab1* . *cpp* Select *File - Save As....* and enter Lab1.cpp as the filename.

| Ide: Labl.cpp C:\Documents and Settings\ASG Talker\Desktop - jGRASP CSD (C++) File Edit View Build Project Settings Iools Window Help Image: | × _ D× |
|--|--|
| All Fil V So V C:Documents and Settings\ASG Talker\Desktop\Lab1.cpp' AS C:Documents and Settings\ASG Talker\Desktop C:Documents V Downloads My Google G My Nusic My Network Places My Ny Computer My Ny Computer My Network Places Folders Copy from USB Folders-Large-Local Compile Message | × ⇒ BB E Default Extension: _cpp ▼ Format ⊙ Binary Unix ⊙ DOS Format Mac Format Filter Extensions: |
| Stop File Name: Lab1.cpp Clear Files of Type: C++ Files Copy Copy Copy | Save Cancel OWS\system: |
| H 🛛 🗖 👘 👘 👘 | ine:7 Col:2 Code:0 Top:1 OVS BLK |

Don't forget the .cpp extension.

6. Once the file is saved, click on **Build – Compile and Link**



7. You may have syntax errors. Correct any syntax errors and re-Compile and Link. Repeat this procedure until the program is void of all syntax errors and the program compiles properly.

Hints: Unless a bracket follows, all statements must end in a semi-colon.

Brackets must be in pairs.

All variables names must be consistent in spelling and case.

The small message window at the bottom of JGrasp will display your errors. If the program has no errors, the window will look like this:



8. Run the program by clicking on Build - Run

| - | | | | | | | | |
|-----------------------|---------------------------------|--------------------------|---------------|---|------|----------|--------------|---------|
| G File: Lab1.cpp(| C:\Documents and Settings | ASG Talker\Desktop - jGR | ASP CSD (C++) | | | | | - 🗆 🗡 |
| <u>File Edit View</u> | Build Project Settings | Tools Window Help | | | | | | _ 🗗 🗙 |
| 📇 🗔 🛅 | Make | Ctrl-M | 🐁 🖌 🖌 🛃 | | | | | |
| | Compile and Link | Ctrl-N | | _ | | | | |
| All Fil 🔻 So 🔻 | C <u>o</u> mpile | 21.0 | | | | | | |
| | C <u>h</u> eck | | | | | | | |
| | ☑ Debug Mode | | | | | | | |
| C:\Documents : • | Run | Ctrl-R | ; | | | | | |
| Downloads | Debug | | | | | | | |
| My Google Ga | End | CHLE | | | | | | |
| My Music | Dun Arnumente | 0012 | | | | | | |
| My Shanes | Run Argumen <u>i</u> s | | | | | | | = |
| My Videos | Run In W <u>S</u> DOS WINDOW | | | | | | | |
| OneNote Note | Kun ropmost | w When Dumning | | | | | | |
| 🖬 Visual Studio | Pocus to Run I/O <u>vv</u> indo | w when kunning | | | | | | |
| 📫 Visual Studio | Main <u>F</u> ile | • | | | | | | |
| | | | | | | | | |
| Browse | | | II | | | | | • |
| Find Debug | S Lah1.con | | | | | | | |
| WORDERCH | | | | | | | | |
| Compile Messag | jes jGRASP Messages | Run I/O Interactions | | | | | | |
| End Clear Help | | | | п | | | | |
| | | | | | Line | :6 Col:2 | Code:0 Top:1 | OVS BLK |

9. The program's output ("hello") will appear , like this: On a PC (remember, select *Build - Run in MSDOS Window* first)



On a Mac or in Lab: the output appears at the bottom.

| 000 | File: Lab1.cpp /Users/mikeb/Desktop – jGRASP CSD (C++) | | | | | | | |
|---|--|--|-----|--|--|--|--|--|
| <u>File Edit V</u> iev | <u>B</u> uild <u>P</u> roject <u>S</u> ettings <u>T</u> ools <u>W</u> indow <u>H</u> elp | | | | | | | |
| - 🔚 🛅 🥔 | X & C 4 I I I I I X 4 + V X 🛎 | | | | | | | |
| C++ Files 🔻 | iort By 🔻 | 「 僑 Lab1.cpp /Users/mikeb/Desktop - jGRASP CSD (C++) ロビロ ロビロ | | | | | | |
| | | #include <iostream></iostream> | | | | | | |
| /Users/mikeb/ | Desktop 💌 | int main () | | | | | | |
| Folders | | { | | | | | | |
| a.out.dSYM | | | | | | | | |
| C Lab1.cpp | | | | | | | | |
| Browse Fin | d Debug | | | | | | | |
| Workbench | | <u> </u> | | | | | | |
| Compile Message: jGRASP Messages Run I/O Interactions | | | | | | | | |
| End Clear Help Help | | | | | | | | |
| | | | | | | | | |
| | | Line:6 Col:2 Code:0 Top:1 OVS | BLK | | | | | |

10. Although Lab 1 will not be graded, some future labs will be, and you should practice submitting your lab to UB Learns. **Practice submitting your file to UBLearns by following the instructions at: http://www.cse.buffalo.edu/~mikeb/UBlearns.doc**