

CS 325

Aug 20, 2009

- operating system

login

ssh username@cs325.cs.vt.edu

password

- "clear" command ~ clear
- "pwd" print working directory
- "cd" change directory
- "ls" list files and directory
- "cd .." goes to home directory
- "cd .." up one folder
- "man ls" manual for ls
- "ls -l" lists
- "ls -a" all files
 - hidden files start with a .
- "chmod" change file permissions

- rwx
user group all

rxw

110
w w w
6 0 0

268 25

Process

r ≈ read

w ≈ write

x ≈ executable

multiple processes

- "chown" change ownership
"chown username:group filename"

- "vim" text editor

- three modes: command, insert, navigation

- escape to get out of insert mode

- undo "u" in command mode

- "v" highlight mode

- "R" replace letters

- "Ctrl+B"

- %s/print/echo/g

entire
file

search what
to replace

replace
with

globally

svnadmin create Repository

open svn.co file: //home/nathan/Repository My Repository

touch Assignment1/complete

1

svn commit -m "submit"

svn checkout svn+^{ssh}://nathan@cs325.cs.ua.edu/
home/nathan/Repository My Local Repository

"svn up" updates local with most recent checkout

Aug 29, 2009

which ls which file folder you're

over ls ~~over~~ manual

for i in abcde; do echo \$i; done

Bash
commands

ls -l lists off in long format

ls -l | grep ^d

ps processes running
ps aux all process on computer

ps aux | grep ^ubuntu

top all process in real time

ctrl + Z pauses

fg restarts

bg move to background

In -s checkout script

start cat

cat > a File

use Ctrl + D to exit

vim Hello.cpp

get out
:wq

vim tutor

svn add Hello.cpp

vim Makefile

all: hello
hello: Hello.cpp
g++ -o hello

"Esc" :wq

./hello

appalled mix

too big
pink

rotten

appalled the one

glad mix

stunned

alled with

appalled called

alled or the

just "see"

alled.

Sep 1, 2009

maximum
int function (int A[], int size)

{

}

main

int B[5] = {10, 40, 20, 50, 30}

cout << maximum(B, 5)

Function template

template <typename T>

Ordinary Class

```
class Pair {
```

```
    int x;
```

```
    int y;
```

```
public:
```

```
    pair (int a, int b) : x(a), y(b) {}
```

```
    void print () { cout << "(" << x << ", " << y << ")" << endl; }
```

```
    pair plus (pair other)
```

```
    { return pair (x + other.x, y + other.y); }
```

```
}
```

```
pair3 = pair1. plus pair (pair2);
```

Class Template

Template <typename T1, typename T2>

T1 x

T2 y_i

Black
Red

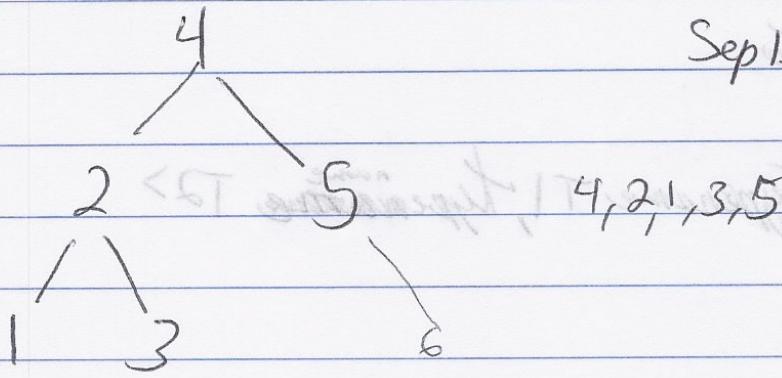
Pair <int, int> → Pair <T1, T2>

Sep 15, 2009

Templated Binary Tree

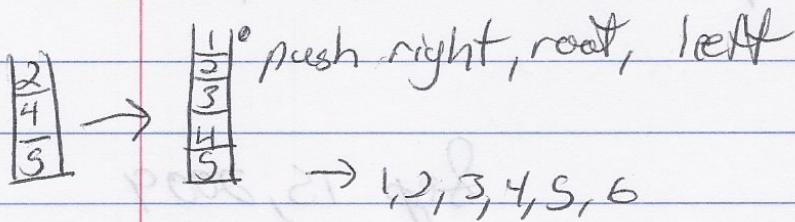
• Red Black Tree

Sep 15, 2009



Level Order 4, 2, 5, 1, 3, 6

traverse tree under
order Left, root, right



Sept 3, 2009

Inheritance

animal

cat

cougar

shrimp

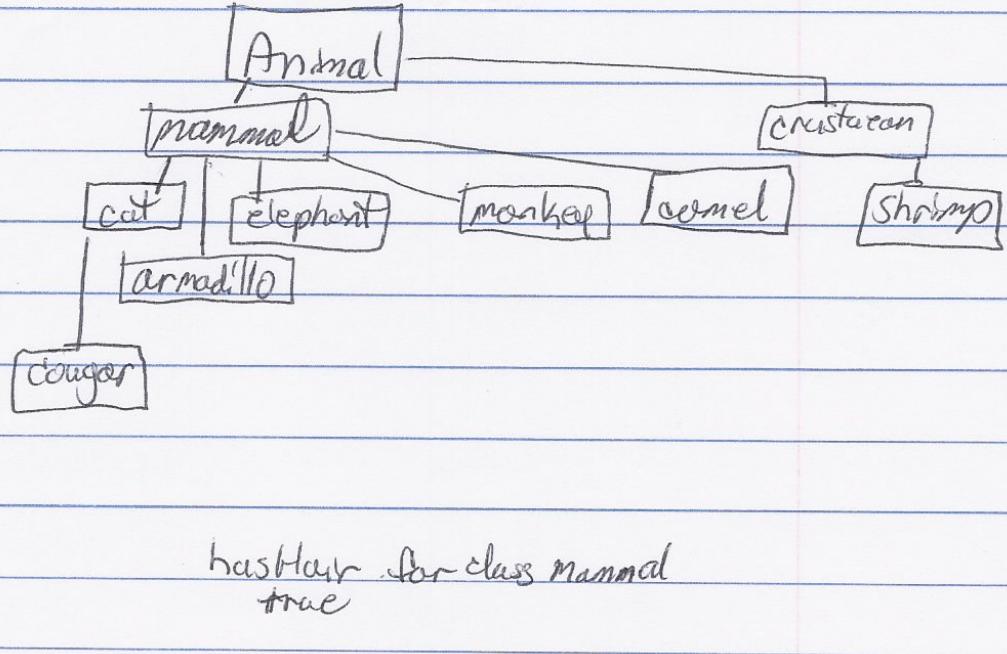
armadillo

elephant

monkey

camel

celm



Shapes

rectangle

ellipse

square

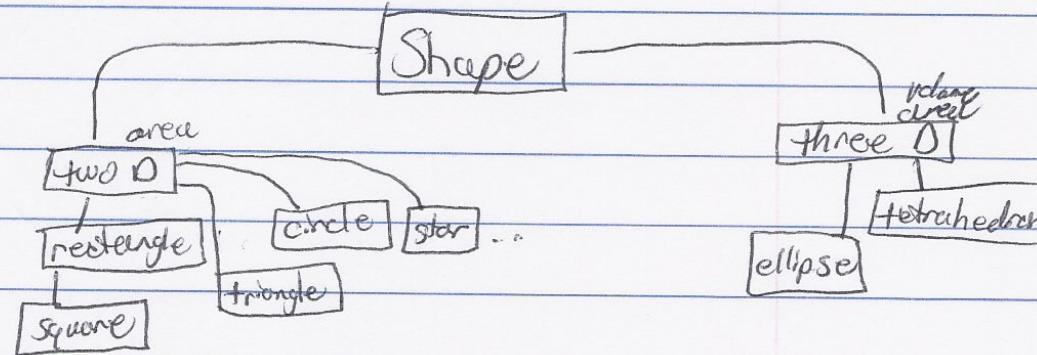
triangle

circle

hexagon

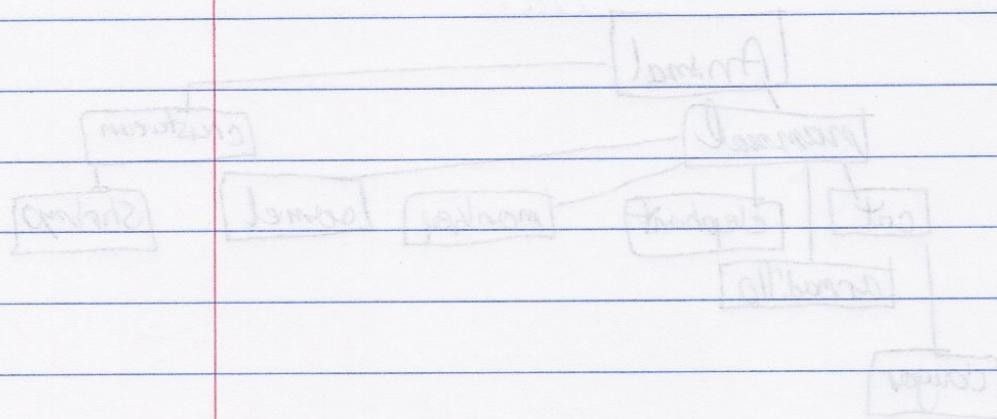
tetrahedron

star



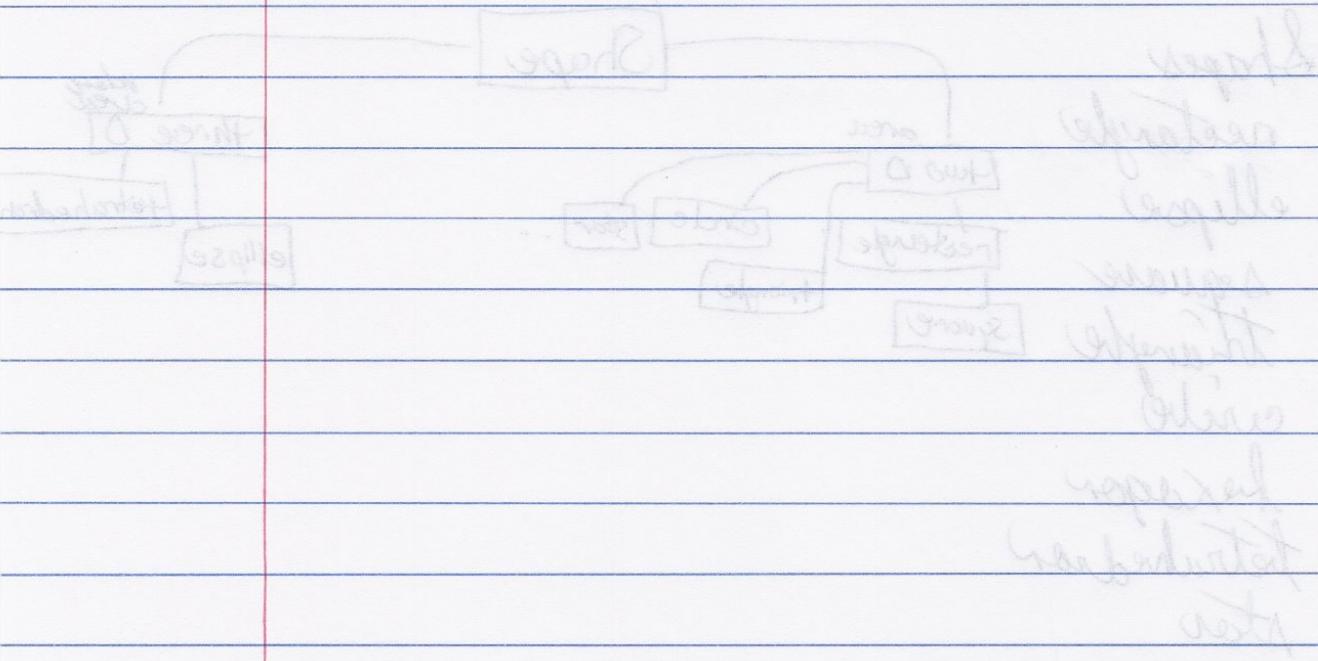
page 2 typed

entitled



Bromus rubens Nuttall
Sedge

Lamia



Sep 8, 2009

polyorphism - functions with the same name but with different number of parameters

int compare(a, int b)

\$@ replace with target
\$< replace with previous

#define AssertTrue

~/.repo/project1

cp "old place" ~/.repo/Project1/

submit
submit
project1

cd ~/.repo/Project1

svn add *

svn commit -m "submit"

checking

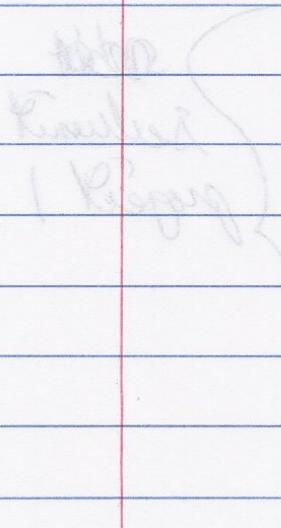
cd

svn co svn+ssh://robin014@ss325.cs.cae.edu/
home/robin014/Repository tmp

(d k i o k i) g o s t i

Report this message @
tinyurl.com/2w7qjgk

and then a smiley



I taught myself
Vimscript "scriptable" in

I taught myself ~ by

* lots of

"trial and error"

Sep 10, 2009

while (getline (ifstream, strng));

file / read file / delimiter
while (getline (if stream, strng, ','));

if string stream is (" ") takes parameter
is >> data;

int to string
atoi (mystring.c_str ())

#ifndef __CSV__
#define __CSV__



static - happens before runtime
dynamic - happens at runtime

Poor, OI gel

"(pink, moist) soft & shiny

resting soft

soft

"(pink, moist) soft & shiny

slowing soft

"(pink, moist) soft &

slowing

path of the
(Arteries, vessels)

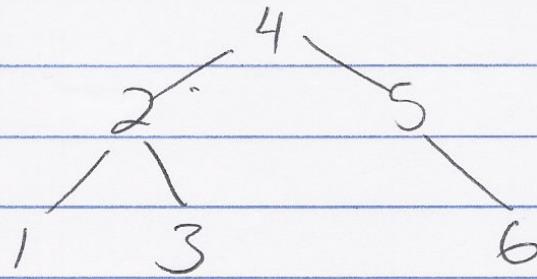
V20 - soft #

- V20 - soft #

Waves wavy wavy - At the

wave to support coronary

Sep 15, 2009

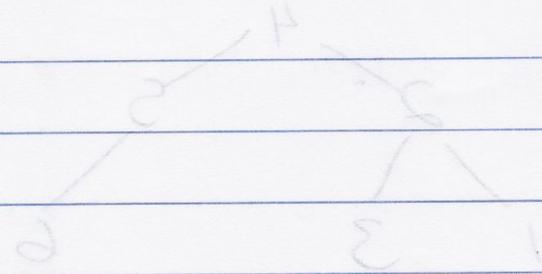


4, 2, 5, 1, 3, 6 Level-order traversal

Sep 17, 2009

- Project 2
- Change Iterator
- if templating Node, ~~as must enclose template~~ Node <T> *next;

POOC119



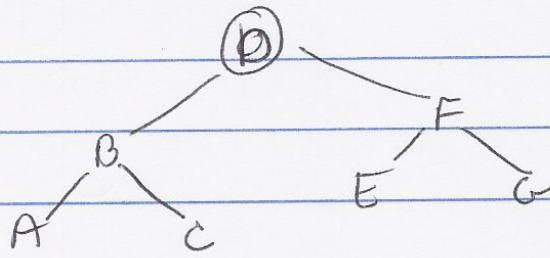
Student who had 1, 2, 3, 4, 5, 6, 7

POOC119

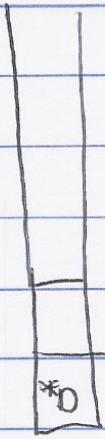
student who had 1, 2, 3, 4, 5, 6, 7
student who had 1, 2, 3, 4, 5, 6, 7
student who had 1, 2, 3, 4, 5, 6, 7

Sep 22 2009

Project 2



must work with pointers



BST<int> tree;
tree.add(5);

BST_PreOrder_I + (BST<T> *t)

BST_PreOrder_Iterator<int>
it (*t & tree);

- getRoot returns the pointer to the root node

T getValue(){

BST_Node<T> *t = stack → top();

return t → getDate();

}

stack

~~push~~ tmp = stack \rightarrow top();

pop

*A

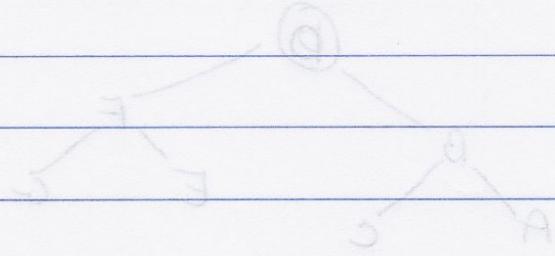
*C

pop

*B

*F

output: P, B, C



queue

dequeue enque

*A *B *F

ps. auxf

pid = process id

KILL -9 3241

3() subproc T

(Dgot < Aout = 3() < T> glob T2d

(Dgot & Aout & T2d

Oct 6

Sep 24, 2009

Command Line Arguments

./myprog 3 baddog

```
int main() {  
    }
```

```
int main (int argc, char **argv) {  
    if (argc != 3) {  
        return 1;  
    }
```

```
    cout << argv[0] << endl;  
}
```

exec takes any ~~two~~ number of variables
that are strings

execv (char *path, char **args);



execv (char *path, void **args);

2 + 0

post its pos

stamped with bound

published & popular

{ along the
}

route to town
20109)

{ Published with your tax) in the
{ (C = 1, 200) &
it makes

libra \Rightarrow Euro \Rightarrow Yen

goldmine \Rightarrow minimum does you expect large
profits are profit

(now exp with Hg * node) \Rightarrow gold

begin * but fitting * with same

Project 3 Notes

2011 8 29

Oct 15, 2009

every Java prog begins with "cute babe"

- "javac filename" to ~~compl~~ compile
- "java program name" to run a java program
 - name of Java file must be the name of the class
 - java b scanner
 - every public must be the name of the file

* Java Doc /*
*/

javadoc -d docs HelloWorld.java
*.java

poor, cl. 100

"good gree" other side long with green

sliding flaps at "green zone"

moving with air of "swimming wind"

at end have different from
tools end of swim

newspaper wind

with for movement all three filling zones*

* all over

*

long (short) all H sink h - school
mud *

October 20, 2009

double average(int [])

errno

- if not non-0, then there is a global variable

javac

exceptions

- if average function is call with an empty list, then you want to handle an exception
- exception is a goto that is capable of doing going to another function

Ctrl + N ~ auto completion

```
while ((c = read(file)) != -1) {
```

}

prob. of control

(\square to) ignore global

some

likely to make with 0-var for 30°
global

some

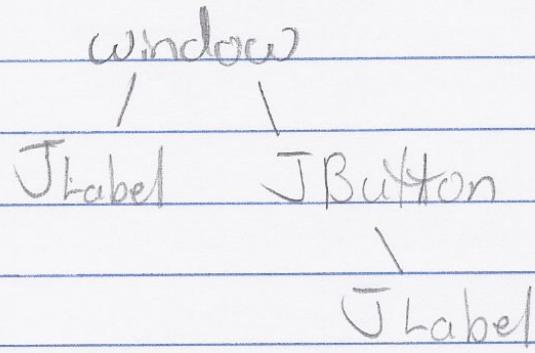
2000-2009

no timelines or history known if:
at river stage with full flow
with no flow
if both stages in antecedent
history with frequency of collapse

water generation = $H + \frac{1}{2} g D$

$\{H = f((\text{lat}), \text{lon}, z, \dots)\}$ etc.

8



interface

- mouse move
- mouse drag

Project

- label for background color
- label for shapes
- background is label

Roberto

attuale habitat

habitat

new species
rich diversity

old hospital
old buildings