

Classes – 2nd Lecture

A Class for Birthdays

- What Data Do We Need to Keep?
 - Name
 - Month
 - Day
 - Year

Birthday Class

- Routines
 - setBirthdate
 - getAge
 - isToday
 - getName
 - getDay
 - getMonth
 - getYear

Starting up – The Data

```
#include <iostream>
#include <cstdlib>
#include <string>
using namespace std;

class Birthday {
private:
    string name;
    int month;
    int day;
    int year;
```

Continuing – Access Routines

```
public:
    int getYear() {
        return year;
    }
    int getDay() {
        return day;
    }
    int getMonth() {
        return month;
    }
    string getName() {
        return name;
    }
}
```

Set Routine – to set up the date

```
void setBirthdate( string n, int m, int d, int yr)
{
    name = n;
    month = m;
    day = d;
    year = yr;
}
```

getAge()

```
// Get the persons age given the current date
int getAge( int currentMonth, int currentDay, int
currentYear)
{
    if ((currentMonth > month ||
        (currentMonth == month && currentDay >= day)) {
        return currentYear - year;
    } else {
        return currentYear - year - 1;
    }
}
```

isToday()

```
bool isToday(int currentMonth, int currentDay,
int currentYear){
    if (currentMonth==month &&
        currentDay == day) {
        return true;
    } else {
        return false;
    }
}
```

The Main Program

```
}; // Close off the class!

int main(void)
{
    Birthday john, joan, jill, jacob;
    john.setBirthday("John Adams", 2, 13, 1735);
    joan.setBirthday("Joan", 1, 15, 1986);
    jill.setBirthday("Jill", 12, 12, 2000);
    jacob.setBirthday("Jacob", 11, 5, 1980);
}
```

Main Program -- Continued

```
cout << john.getName() << " is " <<
    << john.getAge() << " years old" << endl;
cout << jill.getName() << " is " <<
    << jill.getAge() << " years old" << endl;
cout << joan.getName() << " was born on "
    << joan.getMonth() << "/"
    << joan.getDay() << "/"
    << joan.getYear() << endl;
return EXIT_SUCCESS;
}
```