C/C++ Cheat Sheet

For your reference; this sheet will also be included in exams CISC 124, fall 2004

```
Sample C++ Program:
#include <stdio.h>
#include <string.h>
class Employee {
 private:
    char name[51];
    double wage; // hourly wage
 protected:
    double payOwed;
 public:
    Employee(char n[], double w) {
      strcpy(name, n);
      setWage(w);
      payOwed = 0;
    } // end constructor
    virtual void pay(double hours) {
      payOwed += wage * hours;
    } // end pay
    double amountToPay() {
      return payOwed;
    } // end amountToPay
    void setWage(double wage) {
      this->wage = wage;
    void zero() {
      payOwed = 0;
    } // end zero
    // prints employee
    virtual void print() {
      printf("name = %s, ", name);
      printf("wage = $%.2f, ", wage);
      printf("payOwed = $%.2f",
             payOwed);
    } // end print
    void println() {
      print();
      printf("\n");
    } // end println
}; // end class Employee
```

```
class Salesperson: public Employee {
 private:
    double rate;
 public:
    Salesperson(char name[],
                double wage,
                double rate)
        : Employee(name, wage) {
      this->rate = rate;
    } // end constructor
    void payForSale(double amount) {
      payOwed += amount * rate;
    } // end payForSale
    void print() {
      printf("Salesperson ");
      Employee::print();
      printf(", rate: $%.2f\n", rate);
    } // end print
}; // end Salesperson
int main(void) {
  Employee mickey("Mickey Mouse", 20);
  mickey.setWage(21);
 mickey.println();
  Salesperson *donald =
    new Salesperson("Donald Duck",
                    10, 0.15);
 donald->payForSale(100);
  donald->println();
  Employee *company[2];
  company[0] = &mickey;
  company[1] = donald;
  for (int i = 0; i < 2; i++) {
    company[i]->pay(10);
    company[i]->println();
  } // end for
} // end main
```

printf formats:

%d: integer

%f: float or double

%s: string (char array)

%c: char (single character)

scanf formats:

%d: integer

%f: float

%lf: double (first character is L, not one!)

%s: string (char array) %c: char (single character)

string methods:

abstract classes and methods:

```
virtual void sound(char s[]) = 0;
// Reminder: no "abstract" keyword.
// Class headers do not indicate
// whether the class is abstract or
// not. A class is abstract if it
// contains any abstract methods.
```