



University of Khartoum
Faculty of Mathematical Sciences
Department of Computer Science
Lab Manual: C++ Programming Language
Lab No (5)



- 5.1 Write a class definition that creates a class called **leverage** with one private data member, **crowbar**, of type int and one public function whose declaration is void **pry()**. Write a constructor that initializes to 0 the **crowbar** data, a member of the **leverage** class. Assume that the constructor is defined within the class definition.
- 5.2 Create a class called **time** that has separate int member data for hours, minutes, and seconds. One **constructor** should initialize this data to 0, and another should initialize it to fixed values. Another member function should display it, in 11:59:59 format. The final member function should add two objects of type time passed as arguments. A **main()** program should create two initialized time objects (should they be const?) and one that isn't initialized. Then it should add the two initialized values together, leaving the result in the third time variable. Finally it should display the value of this third variable. Make appropriate member functions const.
- 5.3 Write a class **Work** whose objects represent working times (in whole minutes) and salary rates (in whole cents per minute). With this class, the following operation shall be possible:

```
Work* w = new Work(25, 60);    // 25 cent/min, 60 min
w->add(65);                    // add 65 minutes working time
w->printSalary();               // prints salary "31,25" (25*125 Cents)
Work::reset(w);                // reset working time to zero
bool okay = w->subtract(60);     // attempts to subtract 60 minutes
                                // returns false, if not sufficient time
                                // available (time remains unchanged)

Work *v = new Work(30);        // 30 cent/min, 0 min
int r = w->compare(v);           // 0 if salaries of w and v are equal,
                                // 1, if w's salary is bigger, -1, else

Work u(v);                     // u becomes a copy of v
```