

Gebze Institute of Technology
Department of Computer Engineering
CSE 241/501
Object Oriented Programming
Fall 2013
Homework # 4
Due date Nov 6th 2013

You will convert your chess program to an object oriented based C++ program. The rules of the game and your output will be the same. In other words, your program will NOT be very intelligent, it will only make random legal chess moves. Your game will continue making random chess moves until the game ends.

There will be at least three classes

- **BoardPosition** class. You may use your BoardPosition class from HW3.
- **ChessPiece** class. This class will represent a chess piece. It will
 - hold the piece name such as pawn or king
 - have a **BoardPosition** data member
 - have a function named **canMove** that takes a position as a parameter and returns true if it can move to that position.
 - Setters and getters for the required data members using the rule of information hiding
 - Any other functions and data member required.
- **ChessBoard** class. This class will hold 16 white and 16 black ChessPiece objects. It will have all necessary data members and function members. The class will include member functions
 - **bool moveBlack(const BoardPosition& source , const BoardPosition& dest)** that will move a chess piece and return true if it can.
 - Another function for **moveWhite**
 - A function for moves made so far. At the beginnig of the game, this function returns zero.
 - A function that returns whose turn to move (either black or white)

Notes:

- Do not use any functions from the standard C library (like **printf**)
- Your program should have only classes and only one function (main). No global variables or functions.
- Do not forget to indent your code and provide comments.
- Use vectors to keep the chessPieces.
- Use all object oriented techniques we learned in the class such as information hiding, principle of least privilege
- You may add any number of other functions and data members to the classes as long as it makes sense.
- You should email your homework to the Teaching Assistant (TA)
2013fallcse241@gmail.com.