

İSTANBUL TEKNİK ÜNİVERSİTESİ
BİLGİSAYAR VE BİLİŞİM FAKÜLTESİ
Date: 26.04.2021
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OBJECT ORIENTED PROGRAMMING MIDTERM EXAM

Question #1 (50pts)

Design and develop a program to produce different player types for a game. Your code should run with the main function given below and produce the given output. You are not allowed to use get/set functions, and you have to use the inheritance rules. The properties of the classes should not be public.

Create Player who has a name and a game score. ExpertPlayer is also a player with additional "skills" (string) such as "time" and "space". You need to print these features of different kinds of players as given in the output. You have to call the functions of base class whenever available (such as print).

Upload your program as **question1.cpp** to Ninova system.

Attention STL is **allowed**. (HINT: only String class)

Getting help from any other person, or from internet is **not allowed**.

Your program should run with the following main function and produce the sample output:

```
// ----- Main Function -----  
int main()  
{  
    ExpertPlayer e1 = ExpertPlayer("ExpertPlayer 1", 10, "time");  
    ExpertPlayer e2 = ExpertPlayer("ExpertPlayer 2", 30, "space");  
    const Player p1 = Player("player 1", 40);  
    e1.print();  
    e2.print();  
    p1.print();  
    int sum = e1 + e2;  
    cout << sum << endl;  
  
    return 0;  
}
```

Output:

```
constructor of player  
constructor of expert player  
constructor of player  
constructor of expert player  
constructor of player  
Name: ExpertPlayer 1 score: 10  
skill: time  
Name: ExpertPlayer 2 score: 30  
skill: space  
Name: player 1 score: 40  
40
```