Declarative Programming Coursework

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1 Introduction

Here is the text of your introduction.

```
let test = 10
```

2 Tennis game scoring system

2.1 Brief

Implement a program that simulates the scoring system for a single tennis game.

2.2 Analysis

2.2.1 Expected Behaviour

A standard tennis game consists of one player or a team of two players a side competing to achieve a win condition. The win condition for a game of tennis as defined by the International Tennis Federation is as follows:

> A standard game is scored as follows with the servers score being called first:
>
> No point - Love
>
> First point - 15
>
> Second point - 30
>
> Third point - 40
>
> Fourth point - Game
> except that if each player/team has won three points, the score is Deuce. After Deuce, the score is Advantage for the player/team who wins the next point. If that same player/team also wins the next point, that player/team wins the Game; if the opposing player/team wins the next point, the score is again Deuce. A player/team needs to win two consecutive points immediately after Deuce to win the Game. (ITF ltd 2016)

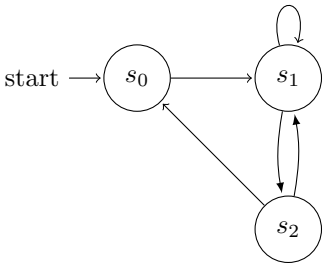
We do not want our user to think about any of these complexities. All the user will need to do is select which player scored a point at the end of each play. It is then up to the program to compute the score and announce the winner when the win condition is met.

Bellow is our user's expected flow through the program. Where each state represents the following expected program behaviour:

s_0 Enter player name
: The *user* enters a name for each participating player.

s_1 Tennis match loop
The *user* enters which player scored a point during play.

s_2 Winner Announced
The *program* produces a winner when the win condition is met.
The *user* chooses to restart the game (using the players already entered) or start a new game



2.3 Difficulties faced

note

During the developement process organising the modules in the correct order rather than relying on object includes in a traditional oop fashion was difficult to get my head around. But after the intiial learning curve it was much easier to visualise the flow and better understand the way each program element interacts with eachoter

References

ITF ltd (2016). *2016 Rules of Tennis (English)*. URL: http://www.itftennis.com/officiating/rulebooks/rules-of-tennis.aspx (visited on 12/01/2016).