

## Game Development TRS - Final Examination - January 12th 2018

YOUR FULL NAME:

- You have 2 hours to complete the assignment.
- Only valid text will be the one inside each box, everything else will be ignored by the teacher

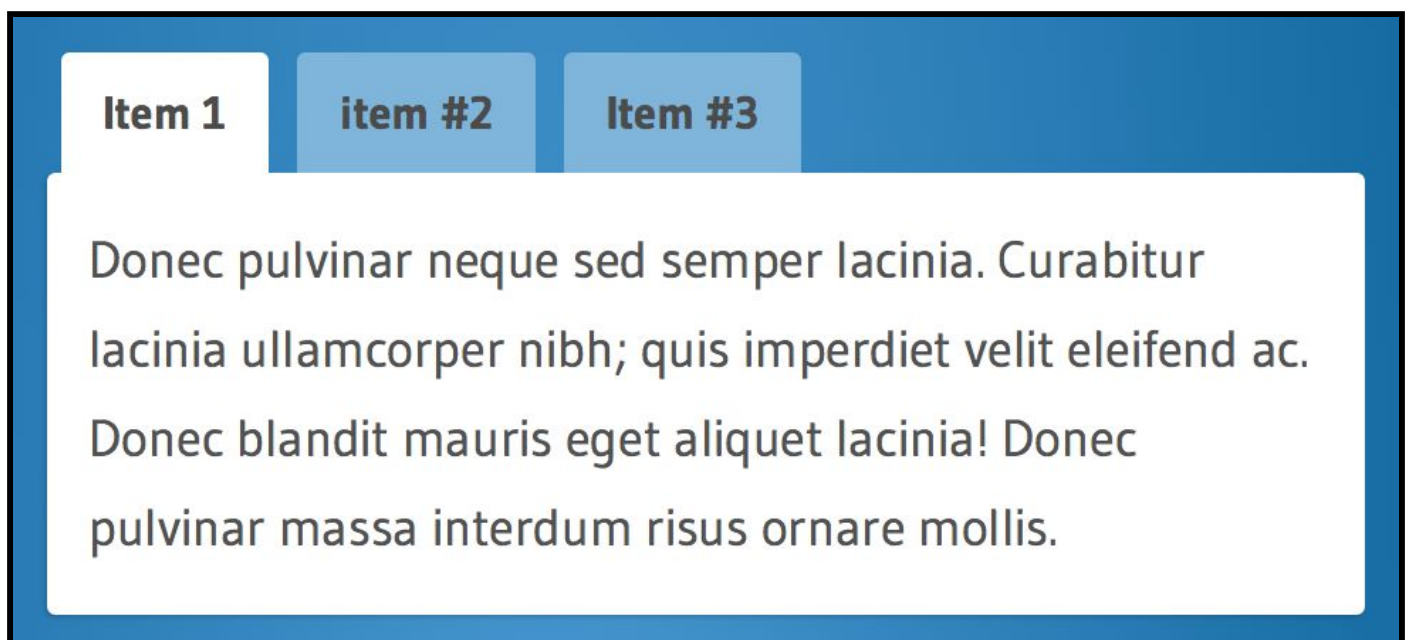
1. **(3 points)** Describe the Dijkstra algorithm, its steps in pseudocode/python/C and create an example where it can be useful to use over A\* in a video game.

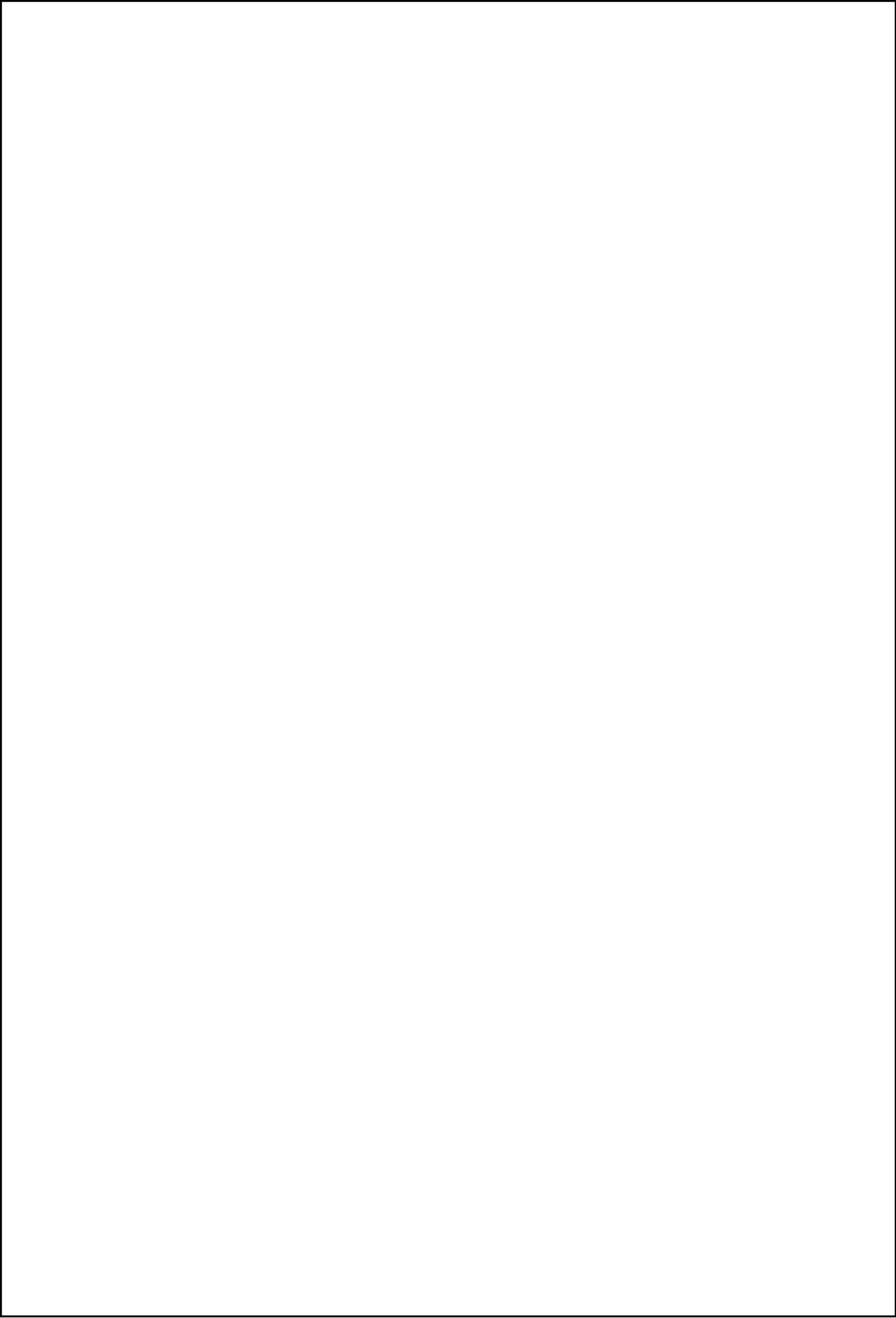
2. (2 points) Find out the mistakes in this XML and suggest improvements.

```
<entities>
  <static>
    <bushes>
      <instance coords="50,25"></instance>
      <instance coords="51,25"></instance>
      <instance coords="52,25"></instance>
    </bushes>
  <dynamic>
    <player coords="47,27" facing=east total_hp=4 hp=1
green_gems=216 arrows=10 bombs=0/>
    <chickens hp="1">
      <instance coords="80,50" facing="west" flying="true"/>
      <instance coords="80,50" facing="west" flying="true"/>
      <instance coords="82,50" facing="east" flying="false"
color="yellow"/>
    </chickens>
  </dynamic>
</entities>
```

3. **(2 points)** Explain the concept of Profiling in the context of video game programming. Why we need to do it, who should do it and what kind of areas of the code we apply it.

4. **(3 points)** Create an UML structure for an UI system that would support the elements (and only those elements) in this picture. Aim for simplicity and modularity. Write the code in C that would create those items before the scene starts.





*Use this page for your own notes. You cannot use any other page. Do not remove this page from the set.*