



CS12320 MINI ASSIGNMENT 2

Maps

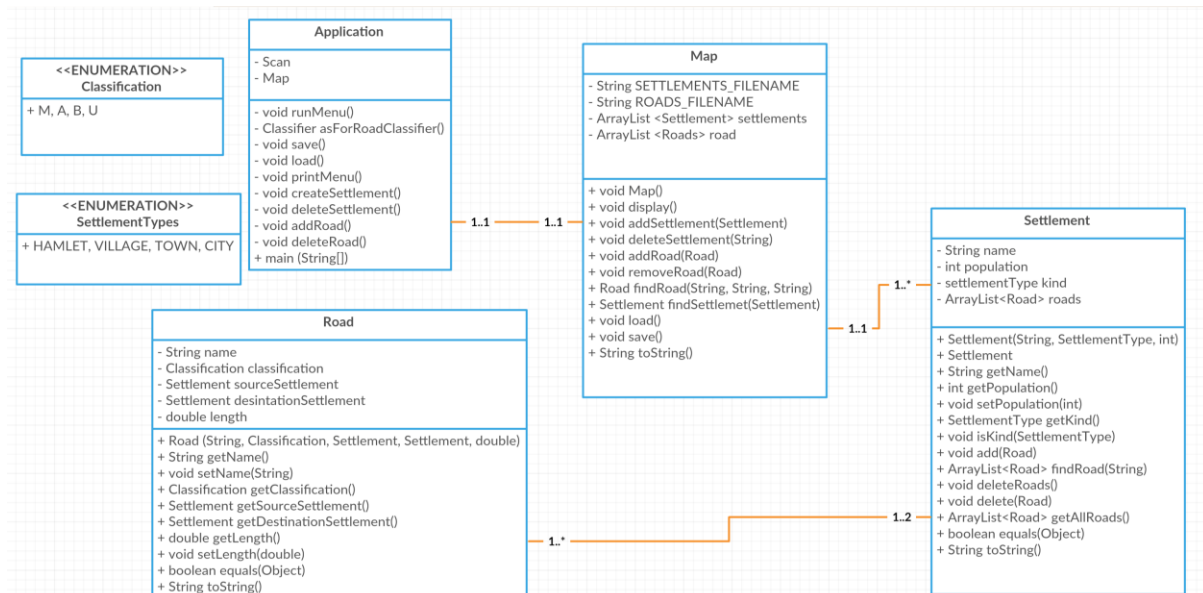
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UML Diagram



Final Thoughts

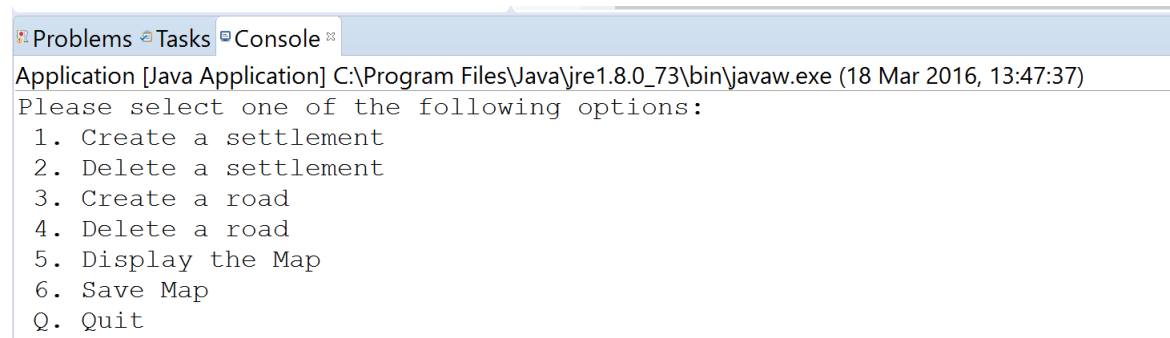
When I first started this assignment, I first began by implementing in the code which I knew I was capable of doing, such as printing out the main menu, which the user would continuously use throughout the program as well as the code needed for the creation of the settlements, as the code needed was very similar to the worksheets that we have been working on over the last month. For the recurring menu, I felt that using case statements was the best choice, as it was what I was most used to since I had to use a lot of case statement previously from my assignment in CS12020. I felt that by using case statements, I was able to program defensively which allowed me to catch any bad errors before they became a major issue later on in the assignment. After implementing the list of options and the creation of the settlement, I then moved onto the save and load methods so that the program was capable of loading the data from the text files and be able to keep the changes that took place within the program. This once again was also relatively simple, as it was similar to one of the worksheets that I did previously in CS12320. Although I had some trouble when it came to deleting a settlement, I eventually went back to the workshop session slides in order to figure out how it was possible to and after finding out about the `<arraylist>.remove` method, I was able to do it with easy.

However, one of the biggest challenges for me was trying to figure out how to properly display the map. I first began by using `system.out.println("");` statements in correspondence to the different types of data needed for the settlement and roads respectively. Although most of it worked, the one issue I came across was that my settlement and my roads were not linked up. This resulted in the source/destination settlements and the connected roads portion of the `println` statements being blank whereas they should've had the correct data. After looking up for some solutions online as well as seeking some pointers from one of the demonstrators, I eventually figured out how to solve the issue after several hours of coding. Unfortunately, this resulted in me not being able to finish the project to completion, as I still have yet to get my program to be capable of deleting roads. The code that I was working with is still in the program.

I feel I should be given a mark between 60-65% for this assignment. I feel that I did all of my code up to a good standard and I feel that the documentation has also been completed to a good quality. However, I know that my code isn't completely error proof and that it can always be improved in terms of efficiency. Finally, losing 10% of the total marks to the deletion of the roads would also result in my mark being lowered.

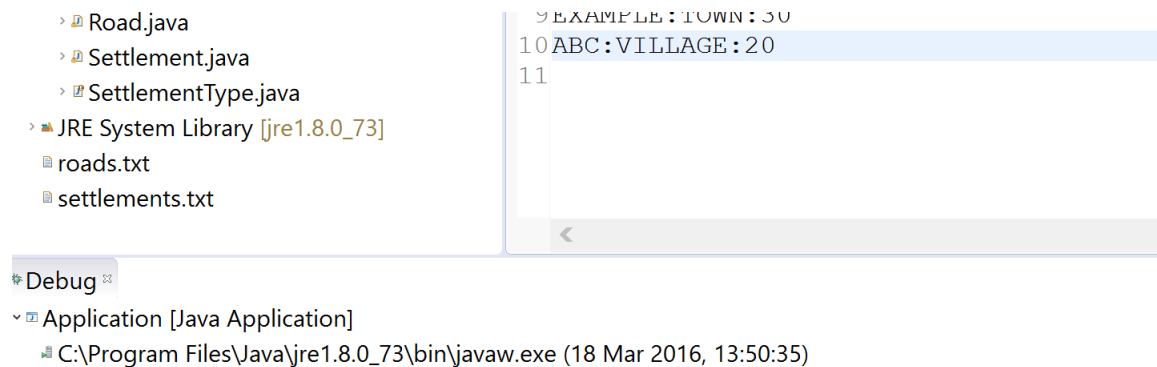
Pictures of Program running

1. The Main Menu/List of Options



```
Problems Tasks Console
Application [Java Application] C:\Program Files\Java\jre1.8.0_73\bin\javaw.exe (18 Mar 2016, 13:47:37)
Please select one of the following options:
1. Create a settlement
2. Delete a settlement
3. Create a road
4. Delete a road
5. Display the Map
6. Save Map
Q. Quit
```

2. The settlement being added into settlements.txt

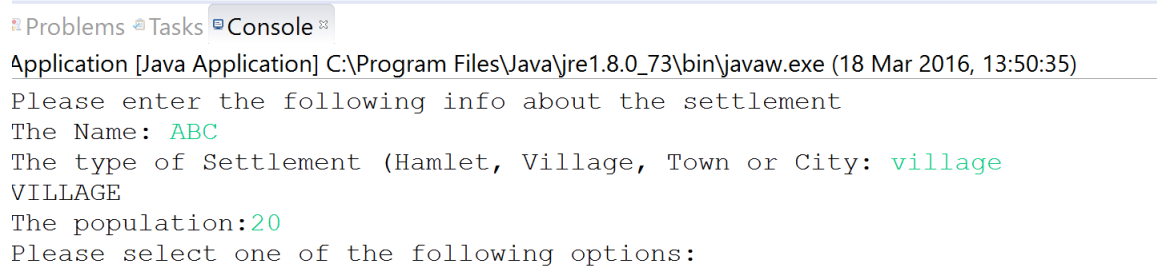


```

> Road.java
> Settlement.java
> SettlementType.java
> JRE System Library [jre1.8.0_73]
roads.txt
settlements.txt

EXAMPLE: TOWN: 30
10 ABC: VILLAGE: 20
11

Debug
Application [Java Application]
  C:\Program Files\Java\jre1.8.0_73\bin\javaw.exe (18 Mar 2016, 13:50:35)
```



```
Problems Tasks Console
Application [Java Application] C:\Program Files\Java\jre1.8.0_73\bin\javaw.exe (18 Mar 2016, 13:50:35)
Please enter the following info about the settlement
The Name: ABC
The type of Settlement (Hamlet, Village, Town or City: village
VILLAGE
The population: 20
Please select one of the following options:
```

3. The road being added to roads.txt (Keep in mind that I called both settlement and road ABC)

The screenshot shows an IDE interface with four main panels:

- File Explorer:** Displays a project structure with files: `Map`, `Road.java`, `Settlement.java`, `SettlementType.java`, `JRE System Library [jre1.8.0_73]`, `roads.txt`, and `settlements.txt`.
- Code Editor:** Shows a snippet of text with line numbers 8 through 11. Line 10, `ABC:U:2.9:ABC:Borth`, is highlighted in blue.
- Debug Console:** Shows the execution stack for a Java application. The top frame is `Application [Java Application]` at `C:\Program Files\Java\jre1.8.0_73\bin\javaw.exe` (18 Mar 2016, 13:50:35). Below it, the `Thread [main] (Stepping)` is shown with the current execution point at `Application.runMenu() line: 32`.
- Text Console:** Displays the output of the application. It shows a series of prompts and user inputs: "Please enter the following info about the road", "The Name: ABC", "The length of the road: 2.9", "The Source Settlement's Name: ABC", "The Destination Settlement's Name: Borth", "Enter a road classification:", "M A B U u", "Road has been created", and "Please select one of the following options:".

4. The map displaying all of the data

```
Debug - map/src/Map.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer
Application.java Map.java Settlement.java Road.java Classification.java settlements.txt roads.txt
Debug
No Active Context
Problems Tasks Console
Application [Java Application] C:\Program Files\Java\jre1.8.0_73\bin\javaw.exe (18 Mar 2016, 13:55:37)

>settlement Name: Tal-y-bont Population: 700 Kind: VILLAGE
>ads:
  Name: A487 SourceRhydyppennau Destination: Tal-y-bont,
settlement Name: Rhydyppennau Population: 100 Kind: HAMLET
>ads:
  Name: A487 SourceBow Street Destination: Rhydyppennau
  Name: A487 SourceRhydyppennau Destination: Tal-y-bont
  Name: B4353 SourceRhydyppennau Destination: Borth,
settlement Name: EXAMPLE Population: 30 Kind: TOWN
>ads: ,
settlement Name: ABC Population: 20 Kind: VILLAGE
>ads:
  Name: ABC SourceABC Destination: Borth]

>ads:

>ad Name: A487 Length: 3.4 Classification:A
 ource Settlement: Aberystwyth
 estination Settlement: Bow Street,
>ad Name: A487 Length: 0.9 Classification:A
 ource Settlement: Bow Street
 estination Settlement: Rhydyppennau,
>ad Name: A487 Length: 2.7 Classification:A
 ource Settlement: Rhydyppennau
 estination Settlement: Tal-y-bont,
>ad Name: A487 Length: 0.9 Classification:A
 ource Settlement: Penparcau
 estination Settlement: Aberystwyth,
>ad Name: Hoel-Y-Bont Length: 0.8 Classification:U

238M of 617M
```

5. The quit option in progress

```
6. Save Map
Q. Quit
q
Are you sure you want to quit the program? (Y/N)
y
Quiting System...
```