Course Instructor: Cristina Ruiz Martin

User Manual

Advance Topics in Software Engineering: Software Development in C

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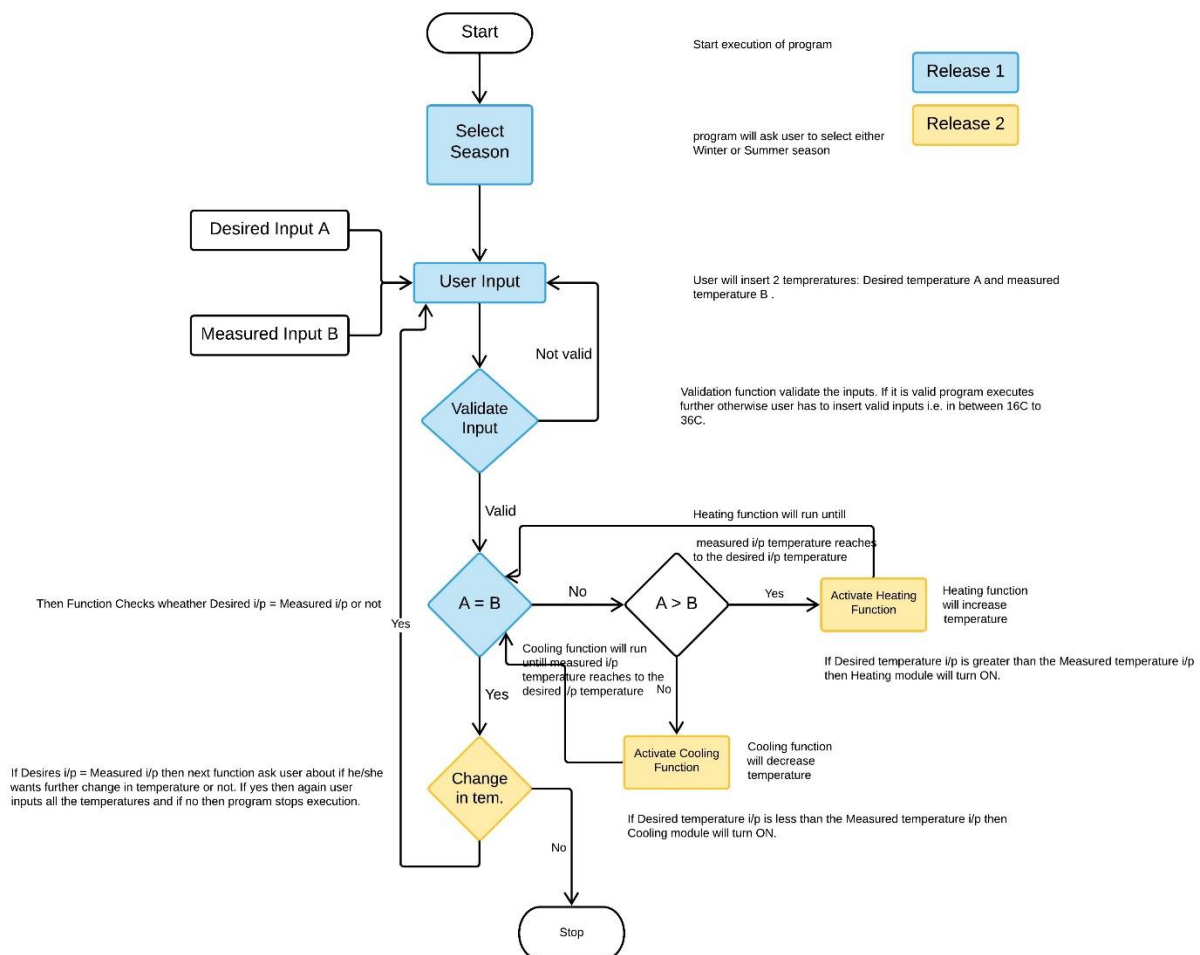
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Problem statement

A home temperature control system maintains room temperature in all seasons. The temperatures can be changed by the user as per the requirements once simulation gets completed.

When the system is "on", the controller gets a reading of the room temperature. The measured temperature is compared to the desired temperature. If the measures temperature does not match with the desired temperature, then the system (heating or cooling) will turn on. When the house no longer requires change in temperature i.e., the measured value is equal to the desired value, then it will prompt user to ask again if he wants to change temperature or not. If he does not want further to change in temperature program will stop execution at that point. If he wants to change then he can set his different desire temperature and algorithm will start working again.
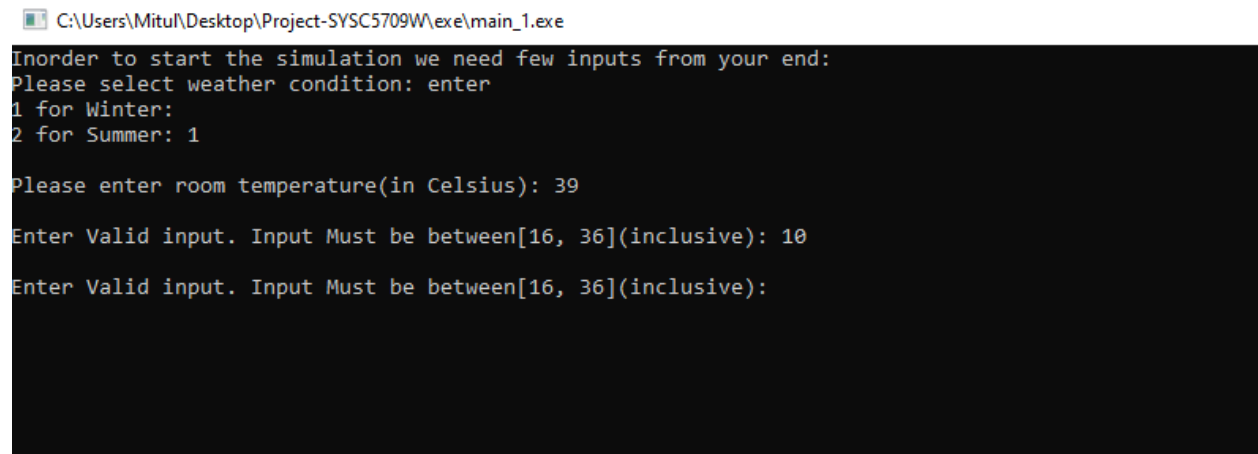
Flow Chart

User Guideline:

Here are some guidelines on how to run project_SYSC5709W:

- Run main_1.exe from exe folder after downloading or cloning git-repository.
- If computer doesn't allow to run exe file, please disable windows security or any antivirus software.

Here are some examples and possible errors user may face while executing program:

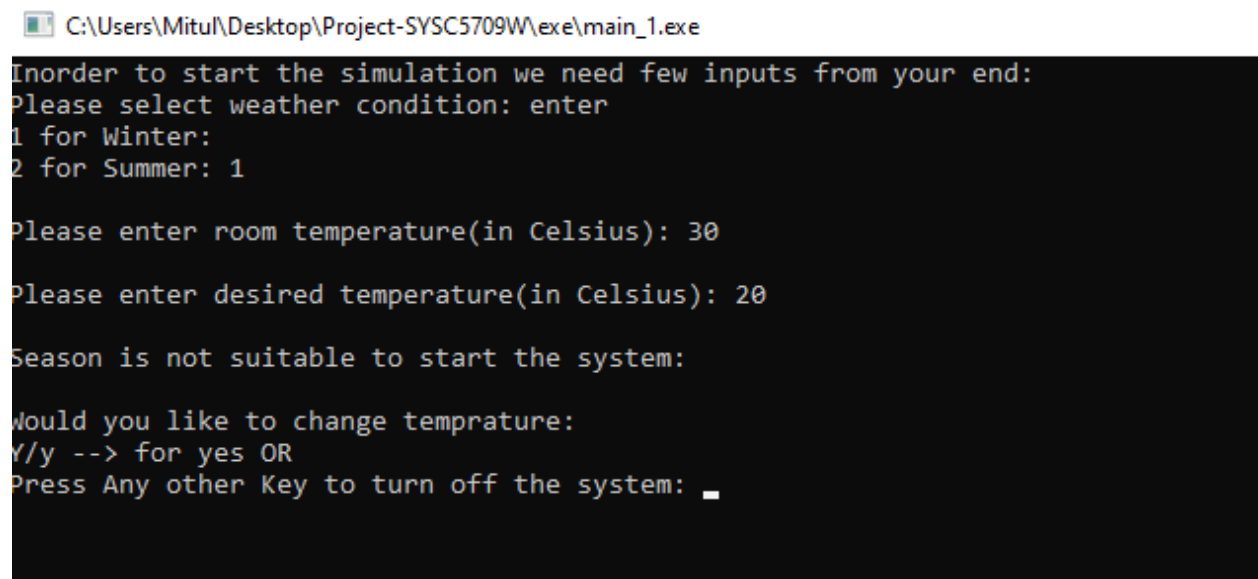1. User has to insert temperature between 16^0C t 36^0C.

C:\Users\Mitul\Desktop\Project-SYSC5709W\exe\main_1.exe

```
Inorder to start the simulation we need few inputs from your end:
Please select weather condition: enter
1 for Winter:
2 for Summer: 1

Please enter room temperature(in Celsius): 39

Enter Valid input. Input Must be between[16, 36](inclusive): 10

Enter Valid input. Input Must be between[16, 36](inclusive):
```

2. In winter season heating system activates so if user want to decrease the temperature in the winter season then program will give the error to choose right temperature for the season and same for the summer. User can not increase the temperature.

C:\Users\Mitul\Desktop\Project-SYSC5709W\exe\main_1.exe

```
Inorder to start the simulation we need few inputs from your end:
Please select weather condition: enter
1 for Winter:
2 for Summer: 1

Please enter room temperature(in Celsius): 30

Please enter desired temperature(in Celsius): 20

Season is not suitable to start the system:

Would you like to change temprature:
Y/y --> for yes OR
Press Any other Key to turn off the system: _
```

3. Complete program process: After execution of 1 cycle if user wants change in temperature, they can do it by pressing y/Y otherwise press any key and program will terminated.

C:\Users\Mitul\Desktop\Project-SYSC5709W\exe\main_1.exe

```
Inorder to start the simulation we need few inputs from your end:
Please select weather condition: enter
1 for Winter:
2 for Summer: 2

Please enter room temperature(in Celsius): 30

Please enter desired temperature(in Celsius): 20

New room temperature is: 29 Celsius
New room temperature is: 26 Celsius
New room temperature is: 24 Celsius
New room temperature is: 24 Celsius
New room temperature is: 23 Celsius
New room temperature is: 23 Celsius
New room temperature is: 21 Celsius
New room temperature is: 21 Celsius
New room temperature is: 20 Celsius
 We have achieved your desired temperature.


Would you like to change temprature:
Y/y --> for yes OR
Press Any other Key to turn off the system: y
Please select weather condition: enter
1 for Winter:
2 for Summer:
```

GIT-HUB LINK: https://github.com/mitulgajera/Project-SYSC5709W.git