Project 2

By Yoda

Student-Progress Tracker

Introduction:

Hours/Week is the number of hours the student has spent studying for his coursework. This variable has three types:

1. low – that is between 0 - 10hrs
2. medium – this is between 20 - 40hrs
3. high – this is between 30 – 40hrs

Based on the hours/week that are spent on studying, the student is given a performance rating. **Performance rating** is of the following types:

1. Poor
2. Satisfactory
3. Good
4. Excellent

The performance of the student is based on the number of hours per week spent on studying and this value can be fuzzy.

Sr. No.	Hours/week	Performance Rating	Grade Increment
1.	Low	Poor	No increment in grades
2.	Low-medium	Satisfactory	5%
3.	Medium	Good	7%
4.	Medium-high	Good	10%
5.	High	Excellent	20%

The performance rating of the student decides his grade increment. If his performance is low, he gets no increment in his grades. However, if his performance is excellent, he gets a 20% increment in his grades.

Security:

For security purposes, the user will be asked for a username and password which are: **admin** and **adminpass**. This ensures that someone who is not authorized does not access the data on this expert system.

Test Case:

Username:
hint: username is admin
admin
Password:
hint: password is adminpass
adminpass
Welcome to Student Progress Tracker, Admin!

Enter student name:
Yoda
How many hours does the student study per week? (1/2/3)
1. 1-10 hours/week
2. 20-40 hours/week
3. 30-40 hours/week
Enter your choice:
3
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CONCLUSION
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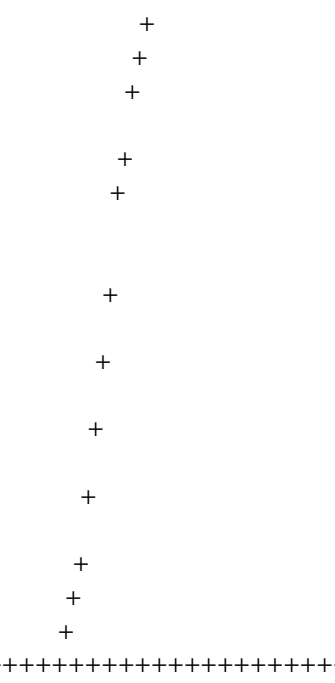
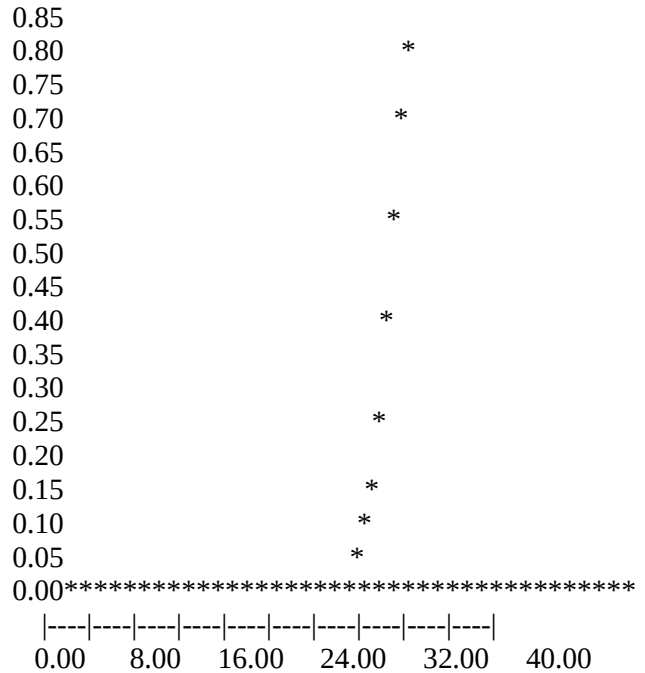
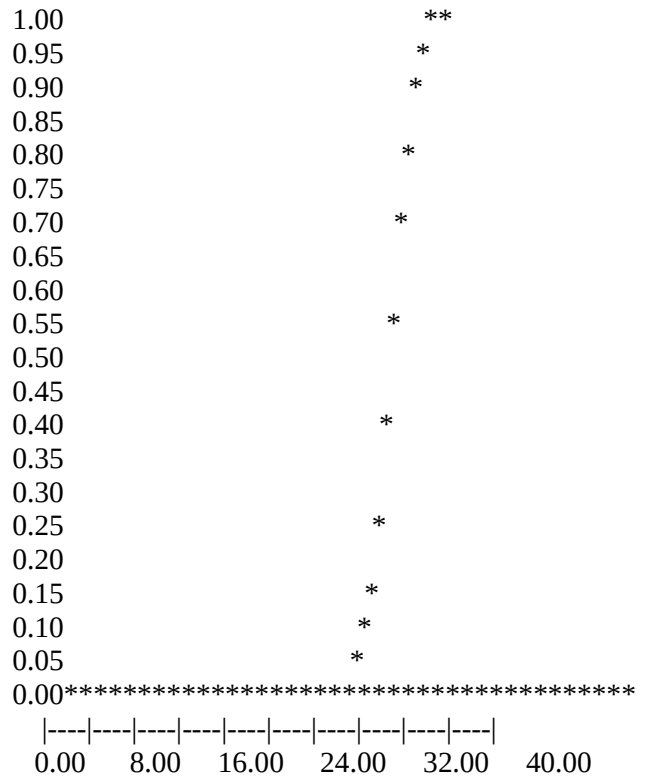
Yoda is rated excellent since the average time spent on studying is high.
rating is: FuzzyVariable -> rating [0.0, 100.0] percentage
Linguistic Expression -> ???
FuzzySet -> { 0/70 0.03/73.75 0.12/77.5 0.28/81.25 0.5/85 0.72/88.75 0.88/92.5 0.97/96.25 1/100 }
hour is: FuzzyVariable -> timespent per week [0.0, 40.0] hours/week
Linguistic Expression -> high
FuzzySet -> { 0/30 0.03/31.25 0.12/32.5 0.28/33.75 0.5/35 0.72/36.25 0.88/37.5 0.97/38.75 1/40 }
Fuzzy Value: rating
Linguistic Value: excellent (*), ??? (+)



Fuzzy Value: timespent per week
Linguistic Value: high (*)



Fuzzy Value: timespent per week
Linguistic Value: high (*)



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GRADE INCREMENT EVERY SEMESTER
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Yoda has the grade increment of 20% this semester.
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CONCLUSION
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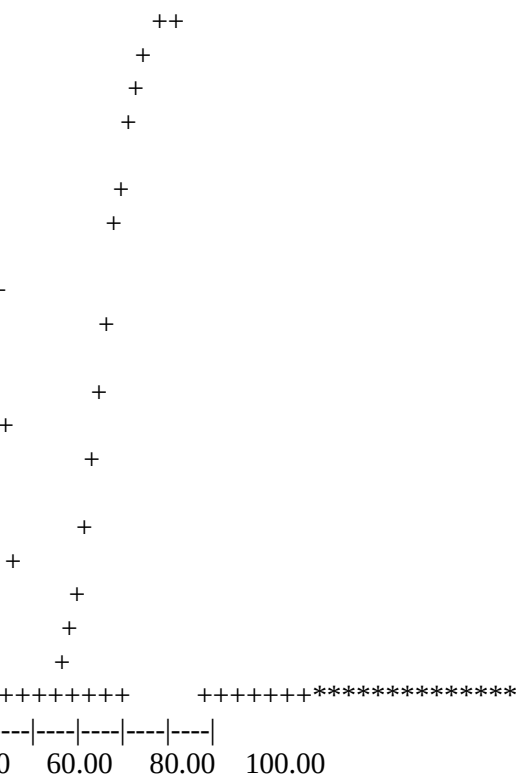
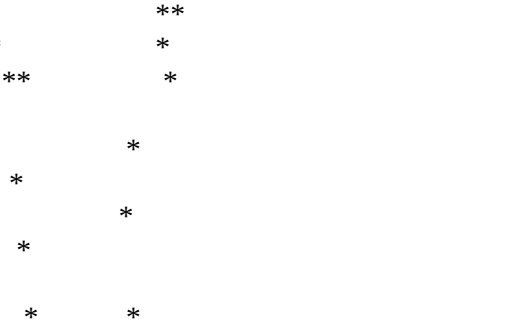
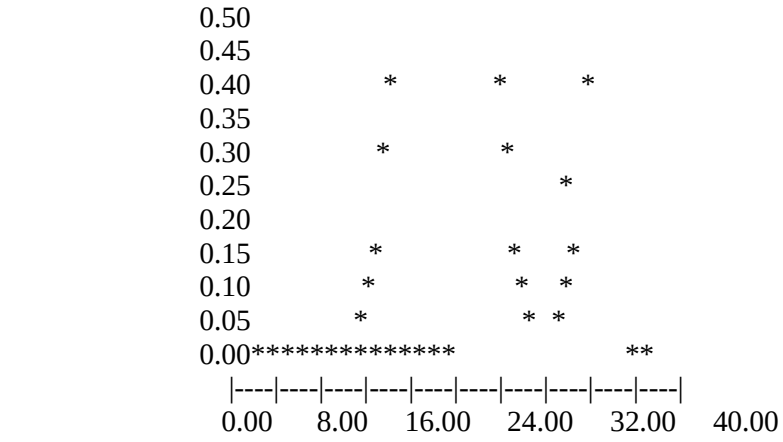
Yoda is rated good since the average time spent on studying is med-high.
rating is: FuzzyVariable -> rating [0.0, 100.0] percentage
Linguistic Expression -> ???
FuzzySet -> { 0/40 1/50 0/60 0/70 0.03/73.75 0.12/77.5 0.28/81.25 0.5/85 0.72/88.75 0.88/92.5 0.97/96.25 1/100 }
hour is: FuzzyVariable -> timespent per week [0.0, 40.0] hours/week
Linguistic Expression -> high
FuzzySet -> { 0/30 0.03/31.25 0.12/32.5 0.28/33.75 0.5/35 0.72/36.25 0.88/37.5 0.97/38.75 1/40 }
Fuzzy Value: rating
Linguistic Value: good (*), ??? (+)

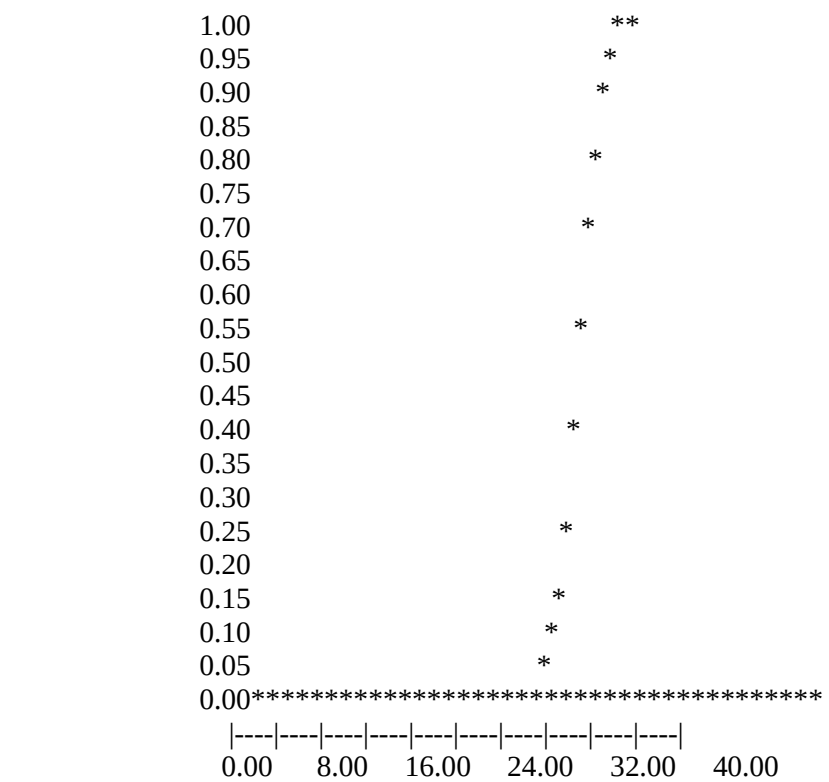


Fuzzy Value: timespent per week
Linguistic Value: medium or high (*)





Fuzzy Value: timespent per week
Linguistic Value: high (*)



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GRADE INCREMENT EVERY SEMESTER
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Yoda has the grade increment of 10% this semester.

How to run the program(Instructions):

1. Go to run configurations of test2.clp.
2. Set the following:
   i) Name – test2.clp

ii) Jess Script – src/test2.clp
iii) Jess main class - nrc.fuzzy.jess.FuzzyConsole

3. Apply and run
4. Output appears in a console.