

## Question 3:

### PAC Chart:

<b><i>DATA GIVEN</i></b>	<b><i>REQUIRED RESULT(S)</i></b>
<ul style="list-style-type: none"><li>→ User's age</li><li>→ Whether or not user has passed eyesight, written, and driving tests.</li><li>→ Medical Certificate (If user is above 60).</li></ul>	<ul style="list-style-type: none"><li>→ Whether the user is eligible for license or not.</li></ul>
<b><i>REQUIRED PROCESSING</i></b>	<b><i>SOLUTION ALTERNATIVE(S)</i></b>
<ul style="list-style-type: none"><li>→ Ask user for age,</li><li>→ If age is less than 18, then output "ineligible",</li><li>→ Otherwise, ask for eyesight exam's result,</li><li>→ If failed eyesight exam, then output "ineligible",</li><li>→ Otherwise ask for written test's result,</li><li>→ If failed written test, then output "ineligible",</li><li>→ Otherwise ask for driving test's result,</li><li>→ If failed driving test, then output "ineligible",</li><li>→ Otherwise, if age is less than 60, output "eligible",</li><li>→ If age is more than 60, ask for medical certificate,</li><li>→ If medical certificate is available, output "eligible", otherwise output "ineligible".</li></ul>	<ul style="list-style-type: none"><li>→ Answer to each question may be taken as a character/char ("P" &amp; "F" or "Y" &amp; "N") or as a Boolean/bool (1/0).</li><li>→ If using char, both uppercase and lowercase inputs should be registered (Both "P" and "p" shall be considered valid inputs for "Pass").</li></ul>

## *IPO Chart:*

<u><b>INPUT</b></u>	<u><b>PROCESS</b></u>	<u><b>MODULE REFERENCE</b></u>	<u><b>OUTPUT</b></u>
→ User's Age, → Results of Eyesight, Written and Driving Tests, → Medical Certificate if age above 60	→ Ask for age → Enter age → IF Age < 18 then say "Ineligible" → Otherwise ask for Eye test results → Enter result → If failed, then say "Ineligible" → Otherwise ask for written test result → Enter result → If failed, then say "Ineligible" → Otherwise ask for driving test result → Enter result → If failed, then say "Ineligible" → Otherwise, if age < 60 say "Eligible" → If age > 60, ask for Medical Certificate → If Medical Certificate available, say "Eligible" → Otherwise say "Ineligible"	PRINT INPUT IF PRINT ELSE PRINT  INPUT IF, PRINT  ELSE, PRINT  INPUT IF, PRINT  ELSE, PRINT  INPUT IF, PRINT  ELSE PRINT  IF, PRINT  IF, THEN PRINT  ELSE, PRINT	→ Either "Eligible for license" Or "Not eligible for license".

### **Algorithm:**

Step 1: Ask the user for age.

Step 2: If the age is less than 18, output “Ineligible”.

Step 3: Otherwise, ask the user for status of their eyesight exam.

Step 4: If user has failed the eyesight exam, output “You'll need prescription for glasses”.

Step 5: Otherwise, ask the user for status of written test.

Step 6: If user has failed the written test, output “You must retake the written test”.

Step 7: Otherwise, ask the user for status of driving test.

Step 8: If user has failed driving test, output “Ineligible”

Step 8: Otherwise, check if user’s age is 60 or above.

Step 9: If age is less than 60, output “Eligible”

Step 10: Otherwise, ask user if they have a medical certificate.

Step 11: If medical certificate is available, output “Eligible”, otherwise output “Ineligible”.

### **Pseudocode:**

01. START

02. PRINT "Enter your age: "

03. INPUT age

04. IF age < 18 THEN

05.     PRINT "You are not eligible!"

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06. ELSE
07.     PRINT "Have you passed or failed your eyesight exam? (P/F) "
08.     INPUT eyeTest
09.     IF eyeTest = 'F' OR eyeTest = 'f' THEN
10.         "You will need a prescription for glasses!"
11.     ELSE
12.         PRINT "Have you passed or failed your written test? (P/F) "
13.         INPUT writeTest
14.         IF writeTest = 'F' OR writeTest = 'f' THEN
15.             PRINT "You must retake the written test!"
16.         ELSE
17.             PRINT "Have you passed or failed your driving test? (P/F) "
18.             INPUT driveTest
19.             IF driveTest = 'F' OR driveTest = 'f' THEN
20.                 PRINT "Sorry, you are not eligible for license!"
21.             ELSE
22.                 IF age < 60 THEN
23.                     PRINT "You are eligible for the license!"
24.                 ELSE
25.                     PRINT "Do you have a medical fitness certificate?(Y/N) "
26.                     INPUT medCert
27.                     IF medCert = 'Y' OR medCert = 'y' THEN
28.                         PRINT "You are eligible for the license!"
29.                     ELSE
30.                         PRINT "Sorry, you are not eligible for license!"
31.                    ENDIF
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32.                   ENDIF

33.                   ENDIF

34.           ENDIF

35.   ENDIF

36. ENDIF

37. END

## Flowchart:

