## ****Question03:****

## ****Algorithm****

Start  
Input age  
If age < 18 → Print "Not eligible" → Stop  
Else → Continue to eye test  
Input eye test result (1 = pass, 0 = fail)I  
f eye = 0 → Print "Not eligible" → Stop  
Else → Continue to written test  
Input written test result  
If written\_test = 0 → Print "Not eligible" → Stop

Else → Continue to driving test   
Input driving test result  
If driving\_test = 0 → Print "Not eligible" → Stop  
Else if (age <= 60) → Print "Eligible for license" → Stop  
Else (age > 60):  
  a. Input fitness certificate  
  b. If fitness = 1 → Print "Eligible for license"  
  c. Else → Print "Not eligible"

End

**Pseudocode**

BEGIN  
 INPUT age  
 IF age < 18 THEN  
 PRINT "Not eligible"  
 STOP  
 ENDIF  
 INPUT eye  
 IF eye == 0 THEN  
 PRINT "Not eligible"  
STOP  
 ENDIF  
 INPUT written\_test  
 IF written\_test == 0 THEN  
PRINT "Not eligible"  
STOP  
 ENDIF  
INPUT driving\_test  
 IF driving\_test == 0 THEN  
 PRINT "Not eligible  
 STOPELSE  
IF age <= 60 THEN  
PRINT "Eligible for license"  
ELSE  
INPUT fitness  
IF fitness == 1 THEN  
PRINT "Eligible for license"  
ELSE  
 PRINT "Not eligible"

**IPO:**

| **Input** | **Process** | **Output** |
| --- | --- | --- |
| - Age  - Eye test result (0/1)  - Written test result (0/1)  - Driving test result (0/1)  - Medical fitness (0/1 if age > 60) | 1. Check if age ≥ 18  2. Check eye test result  3. Check written test result  4. Check driving test result  5. If age ≤ 60 → Eligible  6. If age > 60, check medical fitness | - "You are eligible for license"  - OR  - "You are not eligible" |

## ****PAC:****

| **Given Data** | **Required Result** | **Processing** | **Solution Alternative** |
| --- | --- | --- | --- |
| - Age of applicant  - Eye test result (0 = fail, 1 = pass)  - Written test result (0/1)  - Driving test result (0/1)  - Fitness certificate (if age > 60) | Decide if the person is **Eligible** or **Not Eligible** for a driving license | 1. Check if age ≥ 18  2. If age < 18 → Not eligible  3. Else check eye test  4. If fail → Not eligible  5. Else check written test  6. If fail → Not eligible  7. Else check driving test  8. If fail → Not eligible  9. If age ≤ 60 → Eligible  10. If age > 60 → Check medical fitness  11. If fitness = 1 → Eligible, else → Not eligible | - Implement using **if-else conditions** in C  - Can also be solved using **nested decision structures**  - Alternative: Use **switch-case** or **decision table** |

**C code:**

#include <stdio.h>

int main()

{

    int age;

    printf("enter the age:");

    scanf("%d", &age);

    if ((age >= 18))

    {

        printf("continue to the next question:\n ");

    }

    else

    {

        printf("you are not eligible");

        return 1;

    }

    int eye;

    printf("did you pass eye test: press\nyes->1\nno-> 0");

    scanf("%d", &eye);

    if (eye)

    {

        printf("continue to the next question:\n ");

    }

    else

    {

        printf("you are not eligible");

        return 1;

    }

    int written\_test;

    printf("did you pass written test: press\nyes->1\nno-> 0");

    scanf("%d", &written\_test);

    if (written\_test)

    {

        printf("conntinue to the next question:\n ");

    }

    else

    {

        printf("you are not eligible");

        return 1;

    }

    int driving\_test, fitness;

    printf("did you pass driving test: press\nyes->1\nno-> 0");

    scanf("%d", &driving\_test);

    if (driving\_test)

    {

        if (age <= 60)

            printf("you are eligible for license");

        else

        {

            printf("did you have a medical fitness certificate:  press\nyes->1\nno-> 0");

            scanf("%d", &fitness);

            if (fitness)

            {

                printf("you are eligible for license ");

            }

            else

                printf("you are not eligible");

        }

    }

    else

        printf("you are not eligible");

    return 0;

}