ST10352114
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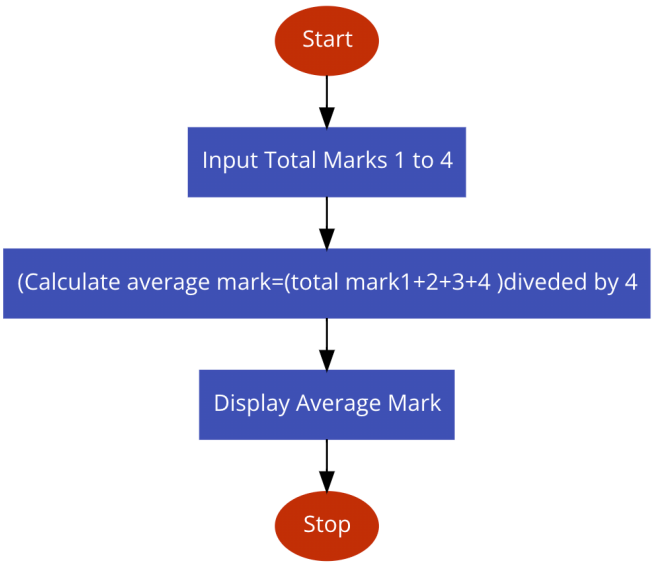
Question 1:

Q.1.1 There are both hardware and software presented above, both of which are required for a functioning Computer System. Hardware is made of components that are located internally or externally, inside or outside the Physical Computer. Software is made of applications or operating systems such as Windows, Linux and MacOS all of which are located above (Farrell, 2018).

Q.1.2 The 1st line indicates to a user that they should enter or input their age. Input age allows for a user to input their age. Age plus 1 adds to the variable age by 1 (the users age is increased by 1). Your age at your next birthday will show the user their age plus 1 showing their age at their next birthday (Farrell, 2018).

Question 2:

Q.2.1



Question 3:

Q.3.1

1. Providing comments where appropriate:

   Within the code, explanations are provided via comments. They act as the program's documentation, making it easier for the creator and anybody else who might see the code in the future to comprehend the program's goals, logic, and specifics. Effective use of comments increases code readability, simplifies maintenance and debugging, and fosters developer cooperation. (Farrell, 2018).

2. Choosing identifiers carefully:

   Variables, functions, classes, and other program objects have names supplied to them as identifiers. Code readability and understanding are enhanced by giving identifiers names that are meaningful and descriptive. It eliminates the need for additional comments and makes the code self-explanatory. The maintainability of the code is improved by using identifiers that are simple to comprehend and alter. (Farrell, 2018).

3. Writing clear statements:

Code that is simple to read and comprehend is referred to as being written in clear statements. Indentation must be done correctly, code must be organized into logical chunks, and the right control flow structures must be used. The likelihood of introducing problems is decreased and uncertainty is removed thanks to clear statements. The readability, maintainability, and ability to detect faults during development are all enhanced by well-structured code. (Farrell, 2018).

4. Echoing input:

Representing or producing the user's input back to them is known as echoing input. It is a useful technique since it gives the user fast indication that their input was appropriately processed by the application. Echoing input improves user experience and lowers the possibility of confusion or incorrect input. It is especially useful in interactive applications or circumstances that call for exact user input. (Farrell, 2018).

5. Maintaining good programming practice:

A wide range of best practices are involved in maintaining excellent programming habits, including following coding standards, adopting the right design patterns, sticking to the modularization principles, and taking efficiency and performance into account. Developers may make their code dependable, scalable, maintainable, and effective by adhering to best practices. Additionally, it encourages cooperation and code reuse, strengthens the codebase and makes it simpler to grasp for both the original developer and any future programmers who might work on it. (Farrell, 2018).

Question 4:

Q.4.1

```
Start:
   Declarations:
            Num Minimum Salary= R12000
            Num Max Repayment %= 30%
            Num Interest Rate= 8%
            Num Max Loan Term In Months = 240
   Housekeeping()
   Detail()
   Finish()
Stop
   Housekeeping()
            Output Is the user permanently employed, Enter users' monthly salary,
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```
                Is the individual under administration.
                Input Yes/No, Monthly Salary.

    Return

    Detail()
                 IF employment status = "Yes" AND Monthly salary > Minimum Salary and
administration = "No" THEN
    Display "Individual is eligible to apply for a home loan."
    Display "Enter the purchase price of the property:"

repayment amount = purchase price * Interest rate 8%* (1 + Interest rate 8%*) ^ Max
Loan Term In Months / ((1 + Interest rate 8%*) ^ Max Loan Term In Months - 1)
    maximum repayment = salary * max repayment &
IF repayment amount <= maximum repayment THEN

       Display The individual is approved for the loan amount."
       Display "Monthly repayment amount: ", repayment amount
    ELSE
       Display "The individual is not approved for the loan amount."
    END IF
ELSE
    Display "Individual does not meet the criteria to apply for a home loan."

   Return
   Finish()
             Output End of program
    Return
```

Reference List for Question 1:

Farrell, J. (2018). *Programming logic and design : introductory*. Boston: Cengage Learning.