A program is needed to prompt the user operator for ten exam scores, calculate the average score and display the result to the screen. The average score is calculated as the sum of the scores divided by the number of scores.

1. Collect ten exam scores from the user.
2. Calculate average and display

Input Processing Output

|  |  |  |
| --- | --- | --- |
| Exam Score(s) | Save score until you have ten scores | Ask for another score and stop if you have ten scores |
|  | Collect ten scores and add them together as sum.  Divide sum by number of scores (10) which is the average | Display average |
|  |  |  |
|  |  |  |

* What control structures (sequence, selection and repetition) are required?

Initialize counter=0

Initialize score as integer

Initialize sum=0

Initialize average as integer

While counter <11

Get input for score

Set sum = sum + score

Increment counter by 1

// Ask for input of an exam score & save score in to a variable sum

End of While loop

Divide sum by 10 and set to variable average

Display average

* What variables are required?

Int -> counter, score, sum and average

2. How much water runs off the roof

Input Processing Output

|  |  |  |
| --- | --- | --- |
| Length & Width of Roof in feet | Store Length\_feet & Width\_feet var  Multiply by 12 to convert into inches.  Store Length\_inch & Width\_inch | Length & Width in inches |
| Waterfall in inches | Store waterfall var (inches) | Waterfall in inches |
|  | Cubicinches = length\_inch X Width\_inch X waterfall\_inch | Total\_Watefall\_CC |
|  | Convert inch to gallon  Cubic\_inch / 231 | Gallons of water  (Total\_Waterfall\_Gallons) |

* What control structures (sequence, selection and repetition) are required?
* What variables are required?

Integer :Length\_feet, Width\_feet

Integer: Length\_inch, Width\_inch

Integer: Waterfall\_inch,

Integer : Total\_Waterfall\_CC

Float: Total\_Waterfall\_Gallons