**Algorithm Assignment Amelework Cheklie sept.2/2019**

**Example 2**

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| --- | --- | --- |
| ***Input*** | ***Processing*** | ***Output*** |
| * Radius | -Total area of circle  A = ∏\*R\*R  D = R\*2  C = 2∏R | -Area  -diameter  -circumference |

Review Question

**Your company needs a program to compute the amount to charge customers for mowing their lawns for an entire season. An employee will type in the total area of the customer’s lawn in square feet. Your company charges 10 cents per square foot to mow a lawn one time and will mow each lawn once a week for 15 weeks.10**

|  |  |  |
| --- | --- | --- |
| ***Input*** | ***Processing*** | ***Output*** |
| * Total Area of the lawn/square feet. * Charge per feet | -Total Square feet of the lawn \*₡ 10 \* 15 weeks = The amount of charge. | -The amount of charge for the whole season. |

**Algorithm Steps**

* Total Area per square (**Received Data)**
* The amount of charge per square feet **(Execute instructions to operate on data)**
* The number of weeks **(Execute instructions to operate on data)**
* Total amount of **(Output)**

**2. You have been asked to write a computer program that will output an employee’s after-tax pay. Your program will read from the keyboard the number of regular hours and overtime hours that the employee worked and the employee’s regular hourly wage. The employee is paid a bonus of 1.5 times regular pay for each overtime hour worked. Tax is 15% of the employee’s gross pay**

|  |  |  |
| --- | --- | --- |
| ***Input*** | ***Processing*** | ***Output*** |
| * Regular hours * Overtime hours * Hourly wage or Pay per hour | -Regula hrs. \* Regular hrs. wage  -Over time = OT hrs.\*regular hrs. wage \* 1.5  - Gross pay = regular wage + overtime pay  Tax = gross Pay x0.15-gross pay  Compute Net = gross pay - tax | -Gross Pay after Tax |

**Algorithm Steps**

* Regular hours (Received Data)
* Over time hours (Received Data)
* Regular wage /hour (Received Data)
* Regular hrs. \*regular wage/ hour (Execute instructions to operate on data)
* Over time wage = over time hrs. \* regular wage/hr. \* 1.5(Execute instructions to operate on data)
* Gross pay = regular pay + overtime pay (Execute instructions to operate on data)
* Tax = gross pay \* 0.15 – gross pay (Execute instructions to operate on data)
* Net = gross pay -Tax (Output)

**3. Which of the following are** **control structures? (Mark all that apply.)**

**a. input/ control structures**

b. computation

**c. sequence/ control structures/**

**d. selection/ control structures/**

**e. repetition/ control structures/**

**f. try, catch, and throw/ control structures /**

g. storage

h. output