Ch 2 Exercises

4.

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| Salary | Quotient | Weekly or biweekly amount |
| Number of paychecks |  |  |
|  | Algorithm:   1. Enter salary 2. Divide salary by 52 for weekly pay 3. Divide salary by 26 for biweekly pay 4. Display weekly salary 5. Display biweekly salary |  |
| 56,700  52 paychecks  26 paychecks | 1. 56,700/52 = 1090.38 weekly 2. 56,700/26 = 2180.77 biweekly |  |
| 32,660  52 paychecks  26 paychecks | 1. 32,660/52 = 628.08 weekly 2. 32,660/26 = 1256.15 biweekly |  |

6.

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| Number of coach tickets | Sum | Total amount of money for flight |
| Number of first class tickets |  |  |
| Price of coach |  |  |
| Price of first class |  |  |
|  | Algorithm:   1. Enter number of coach tickets 2. Multiply number of coach tickets by price of coach for total price for coach 3. Enter number of first class tickets 4. Multiply number of first class tickets by price of first class for total price for first class 5. Add total price of coach with total price of first class for total amount of money for flight |  |
| 9 first class  52 coach  $125 first class  $90 coach | 1. 9 \* 125 = $1125 first class total 2. 52 \* 90 = $4680 coach total 3. 1125 + 4680 = $5805 flight total |  |

10.

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| Number of paychecks | Sum | Total annual contribution |
| Gross pay amount |  |  |
| Carlos contribution rate |  |  |
| Company contribution rate |  |  |
|  | Algorithm:   1. Multiply Carlos contribution rate by gross pay to get his amount 2. Multiply company contribution rate by gross pay to get company amount 3. Add Carlos amount to company amount to get total amount contributed per paycheck 4. Multiply total contribution by number of paychecks to get annual total |  |
| $1465 gross pay  24 paychecks  4% Carlos contribution  2% company contribution | 1. 1465 \* .04 = 58.60 Carlos contribution 2. 58.60 \* 24 = 1406.40 per year 3. 1465 \* .02 = 29.30 company contribution 4. 29.30 \* 24 = 703.20 per year 5. 703.20 + 1406.40 = 2109.60 total contribution per year |  |

12.

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| Distance |  | Number of seconds |
| Speed in mph |  |  |
|  | Algorithm:   1. Enter the distance 2. Enter mph 3. Convert speed to seconds (3600 seconds per hour) 4. Convert miles to feet (5280 ft) 5. Divide distance in feet by seconds per hour 6. Display number of seconds |  |
| 105 mph  60.5 ft | 1. 105 \* 5280 = 554,400 ft/sec  2. 554,400/3600 = 154 ft/sec  3. 60.5/154 = 0.3929 secs |  |
| 89 mph  54 ft | 1. 89 \* 5280 = 469,920 ft/sec 2. 469,920/3600 = 130.5333 ft/sec 3. 54/130.5333 = 0.4137 secs |  |