Project 4e

|  |  |  |
| --- | --- | --- |
| Input | Process | Output |
| Filing Status  Gross Pay | Calculate Withholding tax | Taxable income  Base tax  Percent surcharge  Amount of withholding tax |

Pseudocode:

Prompt Filing Status

STORE cFStatus

PROMPT Gross Pay

STORE dGrossPay

IF (cFstatus == ‘s’ || cFstatus == ‘h’ ) THEN DO

IF (dGrossPay <= 90)

SET dBase = 0.00

SET iPercent = 0

SET dExcess = 0.00

ELSEIF (dGrossPay > 90 && dGrossPay <=452 )

SET dBase = 0.00

SET iPercent = 10

SET dExcess = 90.00

ELSEIF (dGrossPay > 452 && dGrossPay <= 1563)

SET dBase = 36.20

SET iPercent = 15

SET dExcess = 452.00

ELSEIF (dGrossPay > 1563 && dGrossPay <= 3658)

SET dBase = 202.85

SET iPercent = 25

SET dExcess = 1563.00

ELSEIF (dGrossPay > 3658 && dGrossPay <= 7533)

SET dBase = 276.60

SET iPercent = 28

SET dExcess = 3658.00

ELSEIF (dGrossPay > 7533 && dGrossPay <= 16271)

SET dBase = 4695.14

SET iPercent = 33

SET dExcess = 7533.00

ELSEIF (dGrossPay > 16271 )

SET dBase = 4695.14

SET iPercent = 35

SET dExcess = 16271.00

ELSE

DISPLAY logic error

ENDIF

ELSEIF (cFStatus == ‘m’)

IF (dGrossPay <= 338)

SET dBase = 0.00

SET iPercent = 0

SET dExcess = 0.00

ELSEIF (dGrossPay > 338 && dGrossPay <=1063 )

SET dBase = 0.00

SET iPercent = 10

SET dExcess = 338.00

ELSEIF (dGrossPay > 1063 && dGrossPay <= 3283)

SET dBase = 72.50

SET iPercent = 15

SET dExcess = 1063.00

ELSEIF (dGrossPay > 3283 && dGrossPay <= 6263)

SET dBase = 405.50

SET iPercent = 25

SET dExcess = 3283.00

ELSEIF (dGrossPay > 6283 && dGrossPay <= 9398)

SET dBase = 1155.50

SET iPercent = 28

SET dExcess = 6283.00

ELSEIF (dGrossPay > 9398 && dGrossPay <= 16519)

SET dBase = 2027.70

SET iPercent = 33

SET dExcess = 9398.00

ELSEIF (dGrossPay > 16519 )

SET dBase = 4377.63

SET iPercent = 35

SET dExcess = 16519.00

ELSE

DISPLAY logic error

ENDIF

ELSE

DISPLAY logic error

ENDIF

SET dFed = dBase + ((dGross - dExcess) \* iPercent)

SWITCH (cStatus)

CASE ‘m’:

DISPLAY filing as married

BREAK;

CASE ‘h’:

DISPLAY filing as HoH

BREAK;

CASE ‘s’:

DISPLAY filing as single

BREAK;

ENDSWITCH

DISPLAY You gross income is: dGross

DISPLAY Therefore, your base tax is: dBase

DISPLAY Your tax surcharge percentage is: % iPercent

DISPLAY Your withholding tax is: $ dFed

Desk Check

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class of input | Test case – status | Test case – taxable income | Expected tax | Observed tax  Pseudo Code | | Explanation of error, if any. |
| Head of Household | H | -1 | error |  |  |  |
| SINGLE | S | 0 | 0 |  |  |  |
|  | S | 89 | 0 |  |  |  |
|  | S | 90 | 0 |  |  |  |
|  | S | 91 | 0.10 |  |  |  |
|  | S | 451 | 36.10 |  |  |  |
|  | S | 452 | 36.20 |  |  |  |
|  | S | 453 | 36.35 |  |  |  |
|  | S | 1562 | 202.70 |  |  |  |
|  | S | 1563 | 202.85 |  |  |  |
|  | S | 1564 | 203.10 |  |  |  |
|  | S | 3657 | 726.35 |  |  |  |
|  | S | 3658 | 726.60 |  |  |  |
|  | S | 3659 | 276.88 |  |  |  |
|  | S | 7532 | 1361.32 |  |  |  |
|  | S | 7533 | 13161.60 |  |  |  |
|  | S | 7534 | 4695.47 |  |  |  |
|  | S | 16270 | 7578.35 |  |  |  |
|  | S | 16271 | 7578.68 |  |  |  |
|  | S | 16272 | 4695.49 |  |  |  |
| Married | M | 0 | 0 |  |  |  |
|  | M | 1 | 0 |  |  |  |
|  | M | 337 | 0 |  |  |  |
|  | M | 338 | 0 |  |  |  |
|  | M | 339 | 0.10 |  |  |  |
|  | M | 1062 | 72.40 |  |  |  |
|  | M | 1063 | 72.50 |  |  |  |
|  | M | 1064 | 72.65 |  |  |  |
|  | M | 3282 | 405.35 |  |  |  |
|  | M | 3283 | 405.50 |  |  |  |
|  | M | 3284 | 405.75 |  |  |  |
|  | M | 6282 | 1155.25 |  |  |  |
|  | M | 6283 | 1155.50 |  |  |  |
|  | M | 6284 | 1155.78 |  |  |  |
|  | M | 9397 | 2027.42 |  |  |  |
|  | M | 9398 | 2027.70 |  |  |  |
|  | M | 9399 | 2028.03 |  |  |  |
|  | M | 16518 | 4377.30 |  |  |  |
|  | M | 16519 | 4377.63 |  |  |  |
|  | M | 16520 | 4377.98 |  |  |  |