APS145\_workshop6

0.Start

1. Initialize variables WallLength, WallHeight, RoomWidth, WindowLength ,

WindowWidth,Door Length,DoorWidth, WallsArea, CeilingArea, WindowArea,

DoorArea, RoomArea, paintArea, NumBasePaint = 0, NumFinishingPaint = 0, Base

Coat Price = 0, NumBaseCoat = 0 , NumFinishingCoat = 0, Finish Price = 0 Sub-Total=0,

Total=0, Taxes = 0, BaseCoat = 0, FinishCoat = 0

2. System displays the message “Please enter the width of the wall and the height

of the wall in meters”

3. System stores the width in variable RoomWidth and stores the height in variable

RoomHeight

4. System calculates area of the room with 4 x (RoomHeight x RoomWidth) and

stores it under variable RoomArea

5. System displays the message “Please enter the length of the ceiling”

6. System stores the length of the ceiling under variable WallLength

7. System calculates the area of the ceiling with (RoomWidth x WallLength) and

stores it under variable CeilingArea

8. System displays the message “Is there a door in this room?”

a. Yes

i) System displays the message “Please enter the length of the door and

the height of the door

ii) System stores the length of the door under variable DoorLength and

stores the height of the door under variable DoorHeight

iii) System calculates the area of the door by (DoorLength x DoorHeight)

and stores it under variable DoorArea

b. No

i) Go go step 9

9. System displays the message “Is there any windows in this room?”

a. Yes

i) System displays the message “Please enter the length of the window

and the width of the window”

ii) System stores the length of the window under variable WindowLength

and stores the width of the window under variable WindowWidth

iii) System calculates the area of the window by (WindowLength x

WindowWidth) and stores it under variable WindowArea

b. No

i) Go to step 10

10. System calculates total area by

(WallArea+ CeilingArea) - (WindowArea + DoorArea) and stores it under variable

Total Area

11. System displays the message

“The total area needed to be painted today is ‘TotalArea’”

12. System displays the message “Please choose how many coats of base paints you

would like to use”

a) If two is selected

i) System displays the message “We recommend one coats of Finishing Paint”

a) Yes

i) System calculates number of base paint needed by (TotalArea / 12) x 2

rounded to the nearest whole number and stores it under variable

NumBasePaint

ii) System calculates number of Finishing Paint needed by (TotalArea /

15) x 1 rounded to the nearest whole number and stores it under variable

NumFinishingPaint

iii) System displays the message “You will need ‘NumBasePaint’ cans of

base paint and ‘NumFinishingPaint’ cans of finishing paint”

b) No

i) System prints the message “Enter the number of coats of Finish paint”

ii) System stores the number of Finish Paint under variable FinishPaint

iii) System calculates the number of Finishing Paint needed by (TotalArea

/ 15) x (FinishPaint) rounded to the nearest whole number and stores it

under variable NumFinishingPaint

iv) System calculates the number of Base Paint needed by (TotalArea /

12) x 2 rounded to the nearest whole number and store it under variable

NumBasePaint

iv) System displays the message “You will need ‘NumBasePaint’ cans of

base paint and ‘NumFinishingPaint’ cans of finishing paint

b) If one is selected

i) System displays the message “We recommend two coats of Finishing Paint”

c) Yes

i) System calculates number of base paint needed by (TotalArea / 12) x 1

rounded to the nearest whole number and stores it under variable

NumBasePaint

ii) System calculates number of Finishing Paint needed by (TotalArea /

15) x 2 rounded to the nearest whole number and stores it under variable

NumFinishingPaint

iii) System displays the message “You will need ‘NumBasePaint’ cans of

base paint and ‘NumFinishingPaint’ cans of finishing paint”

d) No

i) System prints the message “Enter the number of coats Finish paint”

ii) System stores the number of Finish Paint under variable FinishPaint

iii) System calculates the number of Finishing Paint needed by (TotalArea

/ 15) x (FinishPaint) rounded to the nearest whole number and stores it

under variable NumFinishingPaint

iv) System calculates the number of Base Paint needed by (TotalArea /

12) x 1 rounded to the nearest whole number and store it under variable

NumBasePaint

iv) System displays the message “You will need ‘NumBasePaint’ cans of

base paint and ‘NumFinishingPaint’ cans of finishing paint

c) If zero is selected

i) System displays the message “We recommend three coats of Finishing Paint”

e) Yes

i) System calculates number of Finishing Paint needed by (TotalArea / 15)

x 3 rounded to the nearest whole number and stores it under variable

NumFinishingPaint

ii) System displays the message “You will need ‘NumFinishingPaint’ cans

of finishing paint”

f) No

i) System prints the message “Enter the number of Finish paint”

ii) System stores the number of Finish Paint under variable FinishPaint

iii) System calculates the number of Finishing Paint needed by (TotalArea

/ 15) x (FinishPaint) rounded to the nearest whole number and stores it

under variable NumFinishingPaint

iv) System displays the message “You will need ‘NumFinishingPaint’ cans

of finishing paint

d) If Manual entry is selected

i) System displays the message “Please enter the number of coats of base paint

and finishing paint that you would like”

ii) System stores the number of base paint under variable BasePaint and stores

the number of Finishing paint under variable FinishPaint

iii) System calculates the number of base paint needed by (TotalArea/12) x

BasePaint rounded to the nearest whole number and stores it under variable

NumBasePoint

iv) System calculates the number of finishing paint needed by (TotalArea/15) x

FinishPaint rounded to the nearest whole number and stores it under variable

NumBasePoint

v) System displays the message “You will need ‘NumBasePaint’ cans of base

paint and ‘NumFinishingPaint’ cans of finishing paint”

13. System will calculate Base Coat Price = NumBasePaint x $40.75

14. System will print the message “The total price for base paint is ‘Base Coat Price’ with

‘NumBasePaint’ cans of Base Paint at a cost of $40.75 per can.”

15. System will calculate Finish Price = number of NumFinishingPaint x $47.75

16. 14. System will print the message “The total price for finishing paint is ‘Finish Price’ with

‘NumFinishingPaint’ cans of Finishing Paint at a cost of $47.75 per can.”

17. System will calculate Sub-Total = Base Coat Price + Finish Price

18. System will display a message “The total before taxes for today is ‘Sub-Total’

19. System will calculate Taxes = Sub Total x 0.13 and rounds to the nearest hundredth

20. System will calculate Total = Sub Total + Taxes

21. System will display a message “Here’s is your total after taxes for today ‘Total’”

22. End