Problem Statement

There needs to be a way to quickly define which rooms need what type of flooring and how much it will cost to floor that particular room.

Structure Chart

flooring cost

**offices**

carpet

**gyms**

**hallways**

**kitchen**

**bathrooms**

tile

wood floor

get user info

print report

calculate

Flowchart for Flooring Cost

end

print report

calculate

get user info

start

Pseudo-code

Start of algorithm for flooring cost  
 1. Get User Information  
 2. Calculate  
 3. Print Report  
End of algorithm for flooring cost

Flowchart Get User Info

end

**Prompt user and get Phone Number**

**Prompt user and get Address**

**Prompt user and get Last Name**

**Prompt user and get First Name**

start

Pseudo-code

Start of algorithm for get user info  
 1. Prompt user and get First Name   
 2. Prompt user and get Last Name  
 3. Prompt user and get Address  
 4. Prompt user and get Phone Number  
End of algorithm for get user info

Flowchart calculate

end

wood floor

tile

carpet

start

Pseudo-code

Start of algorithm for calculate  
 1. Calculate carpet  
 2. Calculate wood floor  
 3. Calculate tile  
End of algorithm for calculate

Flowchart carpet

end

start

offices

Pseudo-code

Start of algorithm for carpet  
 1. Calculate offices  
End of algorithm for carpet

Flowchart wood floor

end

hallways

gyms

start

Pseudo-code

Start of algorithm for wood floor  
 1. Calculate gyms  
 2. Calculate hallways  
End of algorithm for wood floor

Flowchart tiles

start

bathrooms

kitchen

start

Pseudo-code

Start algorithm for tiles  
 1. Calculate kitchen  
 2. Calculate bathrooms  
End algorithm for tiles

Flowchart Offices

end

Carpet cost ← total area carpeted \* carpet unit price

Number of offices processed ←   
number of offices processed +1

Total area carpeted ←   
(length \* width)

Read in length  
Read in width

Prompt the user and ask for length and width

While number of offices < number of offices to be processed.

Read in carpet unit price

Prompt the user and ask for carpet unit price

Read in number of offices to be processed

Prompt the user and ask for offices to be processed.

Number of offices processed ← 0  
total area carpeted ← 0

start

Pseudo-code

Start of algorithm for offices   
 1. Number of offices processed = 0  
 2. Total area carpeted = 0  
 3. Prompt the user and ask for number of offices to be processed  
 4. Read in number of offices to be processed  
 5. Prompt the user and ask for carpet unit price  
 6. Read in carpet unit price  
 7. While number of offices < number of offices to be processed  
 8. Prompt the user and ask for length and width  
 9. Read in length  
 10. Read in width  
 11. Total area carpeted = (length \* width)  
 12. Number of offices processed = Number of offices processed + 1  
13. Carpet cost = total area carpeted \* carpet unit price  
14. Return  
End of algorithm for offices

Flowchart Kitchens

end

Tile cost ← total area tiled \* tile unit price

Number of kitchens processed ←   
number of kitchens processed +1

Total area tiled ←   
(length \* width)

Read in length  
Read in width

Prompt the user and ask for length and width

While number of kitchens < number of kitchens to be processed.

Read in tile unit price

Prompt the user and ask for tile unit price

Read in number of kitchens to be processed

Prompt the user and ask for kitchens to be processed.

Number of kitchens processed ← 0  
total area tiled ← 0

start

Pseudo-code

Start of algorithm for kitchens   
 1. Number of kitchens processed = 0  
 2. Total area tile = 0  
 3. Prompt the user and ask for number of kitchens to be processed  
 4. Read in number of kitchens to be processed  
 5. Prompt the user and ask for tile unit price  
 6. Read in tile unit price  
 7. While number of kitchens < number of kitchens to be processed  
 8. Prompt the user and ask for length and width  
 9. Read in length  
 10. Read in width  
 11. Total area tiled = (length \* width)  
 12. Number of kitchens processed = Number of kitchens processed + 1  
13. Tile cost = total area tiled \* tile unit price  
14. Return  
End of algorithm for kitchens

Flowchart Bathrooms

end

Tile cost ← total area tiled \* tile unit price

Number of bathrooms processed ←   
number of bathrooms processed +1

Total area tiled ←   
(length \* width)

Read in length  
Read in width

Prompt the user and ask for length and width

While number of bathrooms < number of bathrooms to be processed.

Read in tile unit price

Prompt the user and ask for tile unit price

Read in number of bathrooms to be processed

Prompt the user and ask for bathrooms to be processed.

Number of bathrooms processed ← 0  
total area tiled ← 0

start

Pseudo-code

Start of algorithm for bathrooms   
 1. Number of bathrooms processed = 0  
 2. Total area tile = 0  
 3. Prompt the user and ask for number of bathrooms to be processed  
 4. Read in number of bathrooms to be processed  
 5. Prompt the user and ask for tile unit price  
 6. Read in tile unit price  
 7. While number of bathrooms < number of bathrooms to be processed  
 8. Prompt the user and ask for length and width  
 9. Read in length  
 10. Read in width  
 11. Total area tiled = (length \* width)  
 12. Number of bathrooms processed = Number of bathrooms processed + 1  
13. Tile cost = total area tiled \* tile unit price  
14. Return  
End of algorithm for bathrooms

Flowchart Gyms

end

Wood floor cost ← total area wood floored \* wood floor unit price

Number of gyms processed ←   
number of gyms processed +1

Total area wood floored ←   
(length \* width)

Read in length  
Read in width

Prompt the user and ask for length and width

While number of gyms < number of gyms to be processed.

Read in wood floor unit price

Prompt the user and ask for wood floor unit price

Read in number of gyms to be processed

Prompt the user and ask for gyms to be processed.

Number of gyms processed ← 0  
total area wood floored ← 0

start

Pseudo-code

Start of algorithm for gyms   
 1. Number of gyms processed = 0  
 2. Total area wood floor = 0  
 3. Prompt the user and ask for number of gyms to be processed  
 4. Read in number of gyms to be processed  
 5. Prompt the user and ask for wood floor unit price  
 6. Read in wood floor unit price  
 7. While number of gyms < number of gyms to be processed  
 8. Prompt the user and ask for length and width  
 9. Read in length  
 10. Read in width  
 11. Total area wood floored = (length \* width)  
 12. Number of gyms processed = Number of gyms processed + 1  
13. Wood floor cost = total area wood floored \* wood floor unit price  
14. Return  
End of algorithm for gyms

Flowchart Hallways

end

Wood floor cost ← total area wood floored \* wood floor unit price

Number of hallways processed ←   
number of hallways processed +1

Total area wood floored ←   
(length \* width)

Read in length  
Read in width

Prompt the user and ask for length and width

While number of hallways < number of hallways to be processed.

Read in wood floor unit price

Prompt the user and ask for wood floor unit price

Read in number of hallways to be processed

Prompt the user and ask for hallways to be processed.

Number of hallways processed ← 0  
total area wood floored ← 0

start

Pseudo-code

Start of algorithm for hallways   
 1. Number of hallways processed = 0  
 2. Total area wood floor = 0  
 3. Prompt the user and ask for number of hallways to be processed  
 4. Read in number of hallways to be processed  
 5. Prompt the user and ask for wood floor unit price  
 6. Read in wood floor unit price  
 7. While number of hallways < number of hallways to be processed  
 8. Prompt the user and ask for length and width  
 9. Read in length  
 10. Read in width  
 11. Total area wood floored = (length \* width)  
 12. Number of hallways processed = Number of hallways processed + 1  
13. Wood floor cost = total area wood floored \* wood floor unit price  
14. Return  
End of algorithm for hallways

Print Report

End

Print user information, phone number, address, total cost

Total cost ← carpet cost + tile cost + wood floor cost

Print wood floor cost

Print tile cost

Print carpet cost

Start

Pseudo-code

Start of algorithm for print report  
1. Print carpet cost  
2. Print tile cost  
3. Print wood floor cost  
4. Total cost = carpet cost + tile cost + wood floor cost  
5. Print user information, phone number, address, total cost  
End of algorithm for print report

User Instructions

1. Fill out the user information such as first name, last name, address, and phone number.
2. Select the type of flooring that you want done.
3. Select the type of room that is to be floored.
4. Select the pricing for the type of floor that has been selected.
5. Insert the length of the room.
6. Insert the width of the room.
7. Repeat steps 2-6 until all the rooms
8. Print out the total cost and user information

Comments

It was cool to see how programmers do their prep-work before they actually go in and code. Now that I have an idea of the preparation, I’m excited to jump in and start the introduction. I think that is when I am going to do the most learning is when I’m engaged and actively doing the things that I am trying to learn.