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Lab 1 Problem 1

move()

//facing right on original beeper spot

while(beepersPresent()){

pickUpBeeper()

move()

turnLeft()

turnLeft()

putBeeper()

putBeeper()

move()

turnLeft()

turnLeft()

}

move()

turnLeft()

turnLeft()

//facing left on new beeper double spot

while(beepersPresent()){

pickUpBeeper()

move()

turnLeft()

turnLeft()

putBeeper()

move()

turnLeft()

turnLeft()

}

move()

move()

turnLeft()

turnLeft()

-----------------------------------------------------------------------------------

Lab 1 Problem 2

//start on 1,1 facing right

//gets from start to final row

while(frontIsClear){

turnLeft()

//algo for grabbing beepers off row

while(frontIsClear()){

if(beepersPresent){

pickBeeper()

move()

}

else{

move()

}

}

if(beepersPresent(){

pickBeeper()

}

turnLeft()

turnLeft()

while(frontIsClear()){

move()

}

turnLeft()

}

//on final column facing right

turnLeft()

while(frontIsClear()){

if(beepersPresent){

pickBeeper()

move()

}

else{

move()

}

}

if(beepersPresent()){

pickBeeper()

}

turnLeft()

turnLeft()

while(frontIsClear()){

move()

}

turnLeft()

//facing right on last, 1

while(beepersInBag()){

putBeeper()

}

turnLeft()

turnLeft()

while(frontIsClear()){

move()

}

turnLeft()

turnLeft()

-------------------------------------------------------------------------------------------------------------------

Lab 1 Problem 3

Inputs - Inches of snowfall

Outputs - salt needed, % chance of school cancellation

First layer is 0-2, second layer is 2-4, 4+ is final layer

2.54 cm to 1 in

logic after first 10cm doesnt matter for school cancel %

-----------------------------------------------------------------------------------

userInput = Console.ReadLine()

int in = userInput

int cm = userInput \* 2.54

if(in < 2){

print((in \* 20) + " lbs of salt")

}

else if(in < 4){

print((((in - 2) \* 30) + 40) + " lbs of salt")

}

else{

print((((in - 4) \* 40) + (40 + 60)) + " lbs of salt")

}

if(cm < 10){

int percent = (cm \* 10) + 5

if(percent) <= 100){

print(() + "% chance of school cancellation tomorrow")

}

else{

print("100% chance of school cancellation tomorrow")

}

}

else{

print("100% chance of school cancellation tomorrow")

}

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| inchesOfSnowfall | double in = inchesOfSnowfall  double cm = inchesOfSnowfall \* 2.54  //salt calculations  if in < 2  lbsSaltNeeded = in \* 20  else if in < 4  lbsSaltNeeded = ((in – 2) \* 30) + 40  else  lbsSaltNeeded = ((in – 4) \* 40) + (40 + 60)  //school cancellation calculations  if cm < 10  double percent = (cm \* 10) + 5  if percent <= 100  percentSchoolCancel = percent  else  percentSchoolCancel = 100  else  percentSchoolCancel = 100 | percentSchoolCancel  lbsSaltNeeded |

In < 2

Int in = inchesOfSnowfall

double cm = inchesOfSnowfall \* 2.54

Prompt user for inchesOfSnowfall

True False

lbsSaltNeeded = in \* 20

In < 4

True False

lbsSaltNeeded = ((in – 2) \* 30) + 40

lbsSaltNeeded = ((in – 4) \* 40) + (40 + 60)

2

Display lbsSaltNeeded + “ lbs of salt needed”

Display percentSchoolChance + “% chance of school cancellation tomorrow”

percentSchoolChance = 100

percentSchoolChance = percent

Percent <= 100

percentSchoolChance = 100

double percent = (cm \* 10) + 5

cm < 10

1

True False

True False