CS 101

Program #2

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**Algorithm:**

1. Greet the user ‘Welcome to the Shaved Ice Ten Day Simulator’
2. Set the bank account to $5 for Day 1
3. Set cost of each cone to .50
4. Tell the user what day it is and how much money they have in the bank ($5)
5. Tell the user what the weather is per day (clear or rainy) and the temperature import random

random.randint()

if value <=10:

print(" Rainy ")

else:

print("Clear")

random.randint( 70, 110)

1. Ask the user to input price per cone > = .50 (repeat step 6 if not over .50)
2. Ask the user how many cones they want to make for day (0, 1, 2, 3, …)
3. Prompt must enter a value >=0, enter value again
4. Prompt user you don’t have enough money to make this many cones. Enter new value (repeat step 7)
5. Determine the number of customers that came per day with the formula:

maxcustomers = (temperature -70) \* 0.5 / cup price (round down)

if it is raining, divide the max customers by 2 (round down)

1. Calculate the number of cones sold according to number of max customers
2. Prompt user ‘you sold # cones today and cost a total of $#.##’
3. Calculate the amount of profit or loss with the (amount sold \* price) – cost
4. Prompt user ‘you have a profit or loss of (-)$0.00
5. If bank account hits $0.00, end simulation and jump to Step 19
6. If not Step 15, loop back to Step 4 until Step 15 occurs.
7. For each new day, state the day and amount of profit in bank.
8. Calculate new bank amount by taking previous day bank amount and adding profit/ loss to it.
9. At the end of day 10 or Step 15 occurs, prompt user ‘End of simulation, do you want to play again? Yes or no’
10. If not a valid response, you must choose ‘Yes or No’
11. Repeat Step 19
12. If Yes is chosen, go back to Step 1, if No, prompt user ‘Thank you for playing the ‘Shaved Ice Ten Day Simulator”
13. End Program