**Algorithms/Flow Charts – Vending Machine Assignment IT-IDT-7**

**IT-IDT 7 Use computational thinking procedures to analyze and solve problems.**

**Problem 1:**

You have just been selected to write a software program that tells a vending machine how to operate. Determine the steps required to make the machine work. Remember that you are programming for the machine. Once you have brainstormed the idea, sketch the flow chart on paper. When you are satisfied with your flow chart, in MS Word, draw your neat and organized flowchart using the shape tools.

**Problem 2:**

You have just been selected to write a software program that tells a vending machine how to make proper change from the bills or coins the customer inserts. The program needs to deliver the smallest possible amount of coins for each transaction.

Write an algorithm to complete this task. The first document should present the problem as a top-down sequence of steps. Second, use flow charts to document your results.

**Flow Chart Rubric Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- |
|  | **Not Completed**  **(0-3)** | **Complete**  **(4-7)** | **Job Well Done!**  **(8-10)** | **Points**  **10 each**  **(30 total)** |
| Planning | No evidence of planning; missing instructions | Plan is evident; most conditions represented in the flow | Evidence of great thought put into planning; all conditions planned for in the flow chart |  |
| Layout | Layout is disorganized and hard to follow | Layout is complete and can be followed with minimal effort | Layout is well organized and easy to follow through all the loops and conditionals |  |
| Functions | Programming would result in problems if used | Program would function, but with minor glitches | Program would function with ease and meet all issues that might arise |  |
| **Total Points Earned** | | | |  |

**Comments:**