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**Date: 03/05/2020**

**Assignment: #2 – Design and Test Plan**

**UML Diagrams:**

**Display List of Gifts for User to choose one**

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| --- |
| **Birthday** |
| +PROGRAMMER: String |
| +name : String |
| +age : int |
| +cancel : char |
| +toyName : String |
| +addToy: String |
| +totalCost : double |
| +main() : void |
| +displayGiftList() : void |

**Overloaded no-arg constructor**

**Check if a Card is selected or not**

**Check if Balloon is selected or not**

**Add cost of Card or balloon to the toy cost**

**Check if Toy is appropriate fore the age and return true, otherwise return false**

**Getter Method for getting cost**

**Getter method for getting age**

**Getter method for getting Toy Name**

**Calculating cost of selected Toy**

**Setter method for age of child**

**Setter method for Toy Name**

**Overloaded Constructor which taking toy name and age as arguments**

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| --- |
| **Toy** |
| -PLUSHIE : double |
| -BOOK : double |
| -BLOCKS : double |
| -CAR : double |
| -BALLOON : double |
| -toy : string |
| -cost : double |
| -age : int |
| +toy() |
| +toy(t : String, a : int) |
| +setToy(t : String) : void |
| +setAge(a : int) : void |
| +setCost(t : String ): void |
| +getToy() : String |
| +getAge() : int |
| +getCost() : double |
| +getOK() : boolean |
| +addCard(s : String) : void |
| +addBalloon(s : String) : void |
| +addCost(c : double) : void |
| +toString() : String |

**Display age, and total cost of Toy and**

**Pseudocode:**

1. Ask user to enter name and age of child
2. Ask user to select a toy from the list
3. Display validation error if user enter something which is not in the list and ask user again
4. Check if the selected toy appropriate for age
5. If toy is not appropriate for age display a warning message and ask user if want to cancel or continue
6. If user selected cancel repeat step 1-5, otherwise continue to next step
7. Set the price of the toy
8. Ask user if want to add Card
9. Add the card to the purchase
10. Ask user if want to add Baloon
11. Add the balloon to the purchase
12. Calculate the Price for the purchase and display the cost
13. Ask if user want to purchase another toy
14. If user entered “yes” repeat test step 1 to 12 and add the cost of new toy to the old toy otherwise continue to next step
15. Display total cost and order number and programmer name.

**Test Plan:**

**Scenario 1: Selecting only one toy.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case#** | **Input** | **Expected Output** | **Actual Output** | **Pass/Fail** |
| **1** | Age = 2 Toy = Book Cancel on age warning = no Add Card = No Add Balloon = No  Add More Toy = No | - Age Warning should be Displayed  - Cost of Toy = $15.00 - Total Cost = $15 | Same as Expected. | **PASS** |
| **2** | Age = 3 Toy = Book Cancel on age warning = yes Add Card = yes Add Balloon = no  Add More Toy = No | - Age Warning should be Displayed  - User should be asked again to enter name and age  - Cost of Toy = $17.95 - Total Cost = $$17.95 | Same as Expected. | **PASS** |
| **3** | Age = 4 Toy = Blocks Add Card = yes Add Balloon = Yes  Add More Toy = No | - Age Warning should not be Displayed  - Cost of Toy = $28.95 - Cost of Toy = $28.95 | Same as Expected. | **Pass** |

**Scenario 2: Selecting Multiple Toys**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case#** | **Input** | **Expected Output** | **Actual Output** | **Pass/Fail** |
| **1** | **Toy 1** Age = 4 Toy = Book Add Card = yes Add Balloon = No  **Toy 2** Age = 2 Toy = Plushie Add Card = no Add Balloon = yes  **Toy 3** Age = 5 Toy = Blocks Add Card = yes Add Balloon = yes | Cost of Toy 1 = $ 17.95 Cost of Toy 2 = $ 31.00  Cost of Toy 3 = $ 28.95  Total Cost = $ 77.90 | Same as Expected. | **PASS** |

**Learning Experience:**

Combing two nested do-while loops took time to figure out. One confusion was if we need to keep information of each iteration and display at the end, but I realized the assignment was stating, it’s not needed to keep toy information after displaying to user. Hand-Tracing and debug mode helped me to keep track of variable changes. I had to make sure to be in sync with Toy.java data-model class for some of the validation and wording. Overall the assignment helped on working with Objects and Methods.