# **Add New Customer:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Process** | **Output** |
| * Enter the new customer’s name. | * Check if the name doesn’t already exist on the system. * Add the new customer’s name to a collection Dictionary along with the present time the customer was added. | * “The new customer was added successfully.” * “This customer already exists.” |

**Start**

SET newCustomer = “”

DISPLAY “What is the customer’s name?”

newCustomer = get value

IF newCustomer is in the Dictionary customers THEN

BEGIN IF

DISPLAY “This customer already exists.”

END IF

ELSE

BEGIN ELSE

SET registerDate = Present date

ADD newCustomer and date to customers

DISPLAY “The new customer was added successfully.”

END ELSE

**End**

# **Add New Book:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Process** | **Output** |
| * Enter the new book’s name. * Enter the category the new book falls under. | * Check if the book doesn’t already exist on the system. * Check if the category entered is valid * Add the new book’s name to a Dictionary along with the book category. | * “This book is already in the library” * “That is not a valid book category. Please try again” * “The new book was successfully added.” |

**Start**

SET newBook = “”

SET category = “”

DISPLAY “What is the new book’s name?”

SET newBook = get value

IF magicBooks contains the Key newBook THEN

BEGIN IF

DISPLAY “This book is already in the library”

END IF

ELSE

BEGIN ELSE

DISPLAY “What category does this book fall under?”

SET category = get value

IF category = spell tomes OR enchanted scrolls OR magical novels THEN

BEGIN IF

ADD newBook and category to magicBooks

DISPLAY “newBook was successfully added.”

END IF

ELSE

BEGIN ELSE

DISPLAY “That is not a valid book category”

DISPLAY “Please try again”

END ELSE

END ELSE

**End**

# **Calculate Discount:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Process** | **Output** |
| * Year the customer registered | * Subtract the Present year with the year the customer registered * Determine the discount percentage | * Discount percentage |

**Start**

SET yearsRegistered = Present year – year customer registered

IF yearsRegistered = 4 THEN

BEGIN IF

RETURN 5%

END IF

ELSE IF yearsRegistered >= 5 AND < 10 AND >= 9 THEN

BEGIN ELSEIF

RETURN 10%

END ELSEIF

ELSE IF yearsRegistered >= 10 AND >= 14 THEN

BEGIN ELSEIF

RETURN 20%

END ELSEIF

ELSE IF yearsRegistered >= 15 THEN

BEGIN ELSEIF

RETURN 35%

END ELSEIF

**End**

# **Award magical bonus:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| * Number of years as a customer * Number of movies rented for the month | * Prompt for number of years as a customer * Get Value * Prompt for number of rentals for the month * Get Value | * You have qualified for 1 bronze tier book! * You Qualify for 3 bronze and 1 silver tier books! * You Qualify for 5 bronze, 2 silver and 1 gold tier books! |

**Start**

**FUNCTION MagicalBonus(yearsRegistered,** numberOfRentals**)**

IF yearsRegistered < 5 AND numberOfRentals < 25 THEN

BEGIN IF

RETURN ” You don’t qualify for magical bonus.”

END IF

ELSE IF yearsRegistered >= 5 AND < 10 AND numberOfRentals >= 25 AND < 50 THEN

BEGIN ELSEIF

RETURN ”You qualify for 1 bronze tier book!”

END ELSEIF

ELSE IF yearsRegistered >= 10 AND < 15 AND numberOfRentals >= 50 AND < 75 THEN

BEGIN ELSEIF

RETURN ” You qualify for 3 bronze and 1 silver tier books!”

END ELSEIF

ELSE IF yearsRegistered >= 15 AND numberOfRentals >= 75 THEN

BEGIN ELSEIF

RETURN” You qualify for 5 bronze, 2 silver and 1 gold tier books!”

END ELSEIF

**End**

# **Identify Eligible Coupons:**

|  |  |  |
| --- | --- | --- |
| **Input** | **Processing** | **Output** |
| * Number of rentals from a customer. | 1. Prompt for number of rentals a customer made. 2. Get Value. 3. Determine which rental coupon the customer appropriately falls under. | * 1 Reward rental * 2 Reward Rentals * 4 Reward Rentals * 8 Reward Rentals |

**Start**

**FUNCTION Coupons(numRentals)**

IF numRentals > 10 AND numRentals <= 24 THEN

BEGIN IF

RETURN 1

END IF

ELSE IF numRentals > 24 AND numRentals <= 49 THEN

BEGIN ELSEIF

RETURN 2

END ELSEIF

ELSE IF numRentals > 49 AND numRentals <= 74 THEN

BEGIN ELSEIF

RETURN 4

END ELSEIF

ELSE

BEGIN ELSE

RETURN 8

END ELSE

**End**