Program Description:

The goal I have for my program is to create a program that both accomplishes my purpose and is user-friendly. The purpose of my program is to allow Disneyland treat-lovers to be able to place orders for their favorite treats to be delivered straight to their homes. This program functions by first welcoming the user to the program and asking them to enter their name and delivery address. Then, a menu of the treats is displayed and the user is prompted to select which treat they want and the quantity they want. Then, they enter their preferred delivery date and time. Finally, a summary of their order and a message thanking them for their order is displayed. The target audience for this program is Disneyland treat lovers. This program is perfect for people who don't go to Disneyland a lot, but still want to enjoy some of Disneyland's treats. Or, if people just want the convenience of getting the treats delivered right to their home, then this program is for them.

One strength of my program is that it is user-friendly. It clearly prompts the user when they need to enter information, like their name or what treat they want, and it quickly allows them to order the treat that they want. Another strength is that the output is clear in the order summary so that the user knows exactly what they ordered, how much it costs in total, when it is being delivered, and where it is being delivered. One weakness of this program is that it allows users to only order one type of treat per order. Another weakness of this program is that it uses a 24-hour time format, which can look messy or confusing. In the future, I could improve this program in many ways, like by increasing the number of treat types per order, changing the time format to a 12-hour format, allowing the user to confirm that their order information is correct after giving the order summary, and much more. But overall, I am happy with how this program turned out and I think that it successfully executes my purpose for the program.

Pseudocode:

```
START OF PROGRAM
// This program is called Magical Treats and it delivers your favorite Disneyland food directly to your home!
INTERFACE Payment
    METHOD calculateTotal()
END INTERFACE
INTERFACE Delivery
    METHOD scheduleDelivery(input)
END INTERFACE
CLASS Customer
    VARIABLES: name, address
    CONSTRUCTOR(name, address)
        SET name, address
    END CONSTRUCTOR
    METHOD getName()
        RETURN name
    END METHOD
    METHOD getAddress()
        RETURN address
    END METHOD
END CLASS
CLASS Order
```

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        VARIABLES: foodName, foodPrice, quantity, totalCost
        CONSTRUCTOR(foodName, foodPrice, quantity)
                SET foodName, foodPrice, quantity
        END CONSTRUCTOR
END CLASS
CLASS DeliveryOrder EXTENDS Order IMPLEMENTS Payment, Delivery
        VARIABLES: month, day, year, deliveryHour, deliveryMinute
        METHOD calculateTotal()
                totalCost = foodPrice * quantity
                RETURN totalCost
        END METHOD
        METHOD scheduleDelivery()
                REPEAT
                        PROMPT user to enter delivery month (1-12)
                        IF month is invalid
                                DISPLAY "Invalid month"
                        END IF
                UNTIL month is valid
                 REPEAT
                        PROMPT user to enter delivery day
                        CHECK if day is valid for the given month
                        IF day is invalid
                        DISPLAY "Invalid day"
```

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                END IF
            UNTIL day is valid
            PROMPT user to enter delivery year
            REPEAT
                PROMPT user to enter delivery hour (9-17)
                    IF hour is invalid
                        DISPLAY "Invalid hour"
                    END IF
                UNTIL hour is valid
        REPEAT
            PROMPT user to enter delivery minute (0-59)
            IF minute is invalid
            DISPLAY "Invalid minute"
            END IF
          UNTIL minute is valid
    END METHOD
    METHOD getDeliveryInfo()
        RETURN formatted string: "month/day/year at deliveryHour:deliveryMinute"
    END METHOD
END CLASS
MAIN PROGRAM
    CREATE input reader
    DECLARE foodNames[]
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        DECLARE foodPrices[]
        PROMPT user for name and address
        CREATE Customer object
        DISPLAY food menu/options with prices
        REPEAT
            PROMPT user for food choice
            SWITCH on choice
                CASE 1-7:
                    DISPLAY "You selected: " + corresponding food
                DEFAULT:
                    DISPLAY "Invalid choice"
        UNTIL choice is between 1 and 7
    PROMPT user for quantity (must be > 0)
        SET selectedFood and selectedPrice based on choice
        CREATE DeliveryOrder object with selectedFood, selectedPrice, quantity
        CALL scheduleDelivery(input)
        CALL calculateTotal()
        DISPLAY order summary
END MAIN
END PROGRAM
```