Task 1: Pseudocode

```
//Task 1 – Calculating the price to park.
//Constants declarations
CONSTANT midnight = 24
CONSTANT eveningPrice = 2.0

//Variable declarations
DECLARE day, answer : STRING
DECLARE stayHours, arrivalHour, departureHour, d1, d2, d3, d4, cd, x : INTEGER
DECLARE price, amount : CURRENCY
DECLARE hoursAllowed, discount : BOOLEAN

//Initialisations
day = "", answer = ""
stayHours = 0, arrivalHour = 0, departureHour = 0
d1 = 0, d2 = 0, d3 = 0, d4 = 0, cd = 0, x = 0
price=0.0, amount=0.0
hoursAllowed = FALSE, discount = FALSE




REPEAT
    OUTPUT "Enter Day: "
      INPUT day
    IF day = "" THEN OUTPUT "You can't leave the day blank."
UNTIL day <> ""




REPEAT
    OUTPUT "Enter hour of arrival (8-23): "
      INPUT arrivalHour
    IF arrivalHour < 8 Or arrivalHour > 23 THEN OUTPUT "Allowed hours for parking are
from 8 till midnight!"
UNTIL arrivalHour >= 8 AND arrivalHour < midnight
```
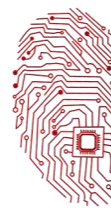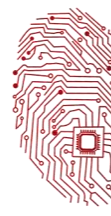
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```
hoursAllowed = False
REPEAT
    OUTPUT "Enter max stay in hours: "
      INPUT stayHours

    departureHour = arrivalHour + stayHours
    IF departureHour <= midnight THEN
        IF arrivalHour < 16 THEN
            IF day = "Sunday" AND stayHours <= 8 THEN
                hoursAllowed = True
            ELSEIF day = "Saturday" AND stayHours <= 4 THEN
                hoursAllowed = True
            ELSEIF stayHours <= 2 THEN
                hoursAllowed = True
            ELSE
                OUTPUT "Today ", stayHours, " hours stay is not allowed!"
            END IF
        ELSE
            hoursAllowed = True
        END IF
    ELSE
        OUTPUT "You cannot stay beyond midnight!"
    END IF
UNTIL hoursAllowed = True




discount = False
OUTPUT "Do you have frequent parking card? "
INPUT answer
IF answer = "YES" THEN
    OUTPUT "Enter frequent parking card number: "
      INPUT d1, d2, d3, d4, cd
    x = ((d1 * 5) + (d2 * 4) + (d3 * 3) + (d4 * 2) + (cd * 1)) Mod 11
    IF x = 0 THEN discount = True
END IF
```

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```
IF arrivalHour >= 16 THEN
    amount = eveningPrice
ELSE
    IF day = "Sunday" THEN
        price = 2
    ELSEIF day = "Saturday" THEN
        price = 3
    ELSE
        price = 10
    END IF
    amount = stayHours * price
END IF

IF discount = True THEN
    IF arrivalHour >= 16 THEN
        // discountAllowed is 50%
        amount = amount / 2
    ELSE
        // discountAllowed is 10%
        amount = amount * 0.9
    END IF
END IF



OUTPUT "Data entered and price to park calculated"
OUTPUT "------------------------------------------------------"
OUTPUT "Day: " & day
OUTPUT "Time of arrival: ", arrivalHour
OUTPUT "Hours stayed: ", stayHours
IF arrivalHour >= 16 THEN
    OUTPUT "Car parking price for full evening: ", price
ELSE
    OUTPUT "Car parking price per hour: ", price
END IF
OUTPUT "Discount given: ", discount
OUTPUT "Price to park: " amount
```