Pseudocode

```
DECLARE basePrice : INTEGER

DECLARE engineSizeLtr : REAL
DECLARE priceChangePerc : Integer
DECLARE valueInThousands : Real
DECLARE locationKept : STRING
DECLARE locationFlag : BOOLEAN
DECLARE thousandKilometerDriven : REAL
DECLARE driverAge : INTEGER
DECLARE yearsWithoutClaim : INTEGER
DECLARE discountPerc : INTEGER
DECLARE newCustDiscountPerc : INTEGER
DECLARE addDriverChoice : STRING
DECLARE newDriverAge : INTEGER

DECLARE newPrice : REAL

basePrice = 500
priceChangePerc = 0
engineSizeLtr = -1.0
valueInThousands = -1000.0
locationFlag = False
thousandKilometerDriven = -1000.0
driverAge = 0
yearsWithoutClaim = -10

WHILE engineSizeLtr < 0
       OUTPUT "Enter the engine size in litres of fuel: "
       INPUT engineSizeLtr

       IF engineSizeLtr > 0.0 AND engineSizeLtr <= 0.5 THEN
              priceChangePerc = priceChangePerc - 5
       ELSEIF engineSizeLtr > 0.5 AND engineSizeLtr <= 1.0 THEN
              priceChangePerc = priceChangePerc + 0
       ELSEIF engineSizeLtr > 1.0 AND engineSizeLtr <= 2.5 THEN
              priceChangePerc = priceChangePerc + 5
       ELSEIF engineSizeLtr > 2.5 THEN
              priceChangePerc = priceChangePerc + 10
       ELSE
              OUTPUT "Please enter a valid engine size."
       END IF
END WHILE
```

Pseudocode

```
WHILE valueInThousands < 0
        OUTPUT "Enter the value of the car (in thousands): "
        INPUT valueInThousands

        IF valueInThousands > 0 AND ValueInThousands < 0.5 THEN
                priceChangePerc = priceChangePerc - 5
        ELSEIF valueInThousands >= 0.5 AND ValueInThousands <= 2 THEN
                priceChangePerc = priceChangePerc + 0
        ELSEIF valueInThousands > 2 AND ValueInThousands <= 10 THEN
                priceChangePerc = priceChangePerc + 5
        ELSEIF valueInThousands > 10 AND ValueInThousands <= 20 THEN
                priceChangePerc = priceChangePerc + 10
        ELSEIF valueInThousands > 20 THEN
                priceChangePerc = priceChangePerc + 15
        ELSE
                OUTPUT "Please enter a valid price."
        END IF

END WHILE

WHILE locationFlag = FALSE
        OUTPUT "Enter the location where the car is kept overnight
                (Garage/Drive/Street): "
        INPUT locationKept
        IF UPPER(locationKept) = "GARAGE" THEN
                locationFlag = TRUE
                priceChangePerc = priceChangePerc - 5
        ELSEIF UPPER(locationKept) = "DRIVE" THEN
                locationFlag = TRUE
                priceChangePerc = priceChangePerc + 0
        ELSEIF UPPER(locationKept) = "STREET" THEN
                locationFlag = TRUE
                priceChangePerc = priceChangePerc + 5
        ELSE
                OUTPUT "Please enter a valid location (Garage/Drive/Street)."
        END IF
END WHILE
```

Pseudocode

```
WHILE thousandKilometerDriven < 0
        OUTPUT "Enter the kilometers driven per year (in thousands): "
        INPUT thousandKilometerDriven
        IF thousandKilometerDriven >= 0 AND thousandKilometerDriven < 5 THEN
                priceChangePerc = priceChangePerc - 5
        ELSEIF thousandKilometerDriven >= 5 AND thousandKilometerDriven <= 20
                THEN
                priceChangePerc = priceChangePerc + 0
        ELSEIF thousandKilometerDriven > 20
                priceChangePerc = priceChangePerc + 5
        ELSE
                OUTPUT "Please enter a valid value for the thousands of
                        kilometers driven."
        END IF
END WHILE

WHILE drivenAge < 18
        OUTPUT "Enter the age of the driver: "
        INPUT driverAge

        IF driverAge >= 18 AND drivenAge <= 20 THEN
                priceChangePerc = priceChangePerc + 100
        ELSEIF driverAge >= 21 AND driverAge <= 25 THEN
                priceChangePerc = priceChangePerc + 50
        ELSEIF driverAge >= 26 AND driverAge <= 30 THEN
                priceChangePerc = priceChangePerc + 25
        ELSEIF driverAge >= 31 AND driverAge <= 70 THEN
                priceChangePerc = priceChangePerc + 0
        ELSEIF driverAge >= 71 AND driverAge <= 80 THEN
                priceChangePerc = priceChangePerc + 10
        ELSEIF driverAge >= 80
                priceChangePerc = priceChangePerc + 20
        ELSE
                OUTPUT "Please enter a valid age."
        END IF
END WHILE
```

Pseudocode

```
WHILE yearsWithoutClaim < 0
	OUTPUT "Enter the number of years without an insurance claim: "
	INPUT yearsWithoutClaim

	CASE OF yearsWithoutClaim
		0: discountPerc = 0
		1: discountPerc = 10
		2: discountPerc = 20
		3: discountPerc = 30
		4: discountPerc = 40
		5: discountPerc = 50
		6: discountPerc = 60
		Is >6: discountPerc = 70
	OTHERWISE
		OUTPUT "Please enter a valid argument."
	END CASE
END WHILE

// ADDITIONAL CODE FOR TASK 3 BEGINS HERE

OUTPUT "Would you like to add another driver? (Y/N) "
INPUT addDriverChoice

IF UPPER(addDriverChoice) = "Y" THEN
	newDriverAge = 0

	WHILE newDriverAge < 18
		OUTPUT "Enter the age of the second driver: "
		INPUT newDriverAge

		IF newdriverAge >= 18 AND newdrivenAge <= 20 THEN
			priceChangePerc = priceChangePerc + 100
		ELSEIF newdriverAge >= 21 AND newdriverAge <= 25 THEN
			priceChangePerc = priceChangePerc + 50
		ELSEIF newdriverAge >= 26 AND newdriverAge <= 30 THEN
			priceChangePerc = priceChangePerc + 25
		ELSEIF newdriverAge >= 31 AND newdriverAge <= 70 THEN
			priceChangePerc = priceChangePerc + 0
		ELSEIF newdriverAge >= 71 AND newdriverAge <= 80 THEN
			priceChangePerc = priceChangePerc + 10
		ELSEIF newdriverAge >= 80
			priceChangePerc = priceChangePerc + 20
		ELSE
			OUTPUT "Please enter a valid age."
		END IF
	END WHILE

END IF
```

Pseudocode

```
// ADDITIONAL CODE FOR TASK 3 ENDS HERE
newPrice = basePrice + (priceChangePerc / 100) * basePrice

newPrice = newPrice - ((discountPerc / 100) * newPrice)

OUTPUT "The total percentage change in the base price of insurance is: " +
       priceChangePerc + "%"
OUTPUT "The percentage discount due to years without claim is: " + discountPerc
       + "%"

// ADDITIONAL CODE FOR TASK 2 BEGINS HERE
IF driverAge >= 26 AND driverAge <= 70 THEN
       IF yearsWithoutClaim >= 2 THEN
              newCustDiscountPerc = 10
       END IF
END IF

OUTPUT "The amount of money saved by applying the 'new customer discount' is:
       $" + (newPrice * (newCustDiscountPerc / 100))

newPrice = newPrice - ((newCustDiscountPerc / 100) * newPrice)

// ADDITIONAL CODE FOR TASK 2 ENDS HERE
OUTPUT "The price to insure your car is: $" + newPrice
```