Lease vs. buy car: compare new car financing options to find the optimal

Description:

The problem that aims to tackle is While we don't own a car that you lease, we're still responsible for damages. If you return the vehicle damaged at the end of the lease, we'll have to pay fees for what the automotive dealer deems excessive wear and tear. So, it is better to buy a car rather than leasing the car or we should provide the hourly/day lease offers with low price.

It is important to tackle because, if we're looking to get a new car, you might consider leasing it instead of buying it outright. While car leases typically come with lower monthly payments, you won't actually own the car. Buying a car, on the other hand, means you'll be purchasing an asset, which can be worth making higher payments.

New or used vehicle is one of the most significant expenses individuals and families incur, other than housing costs.[1] Vehicles, whether leased or financed, are considered a typical cost of American life by many people. If you don't want to deal with an auto loan or you find it too daunting to save up for the full price of a car, you may want to consider leasing a vehicle. It is not for everyone, though.

Leases often are cheaper in the short term, but in the long run, purchasing a vehicle is generally less expensive. Weighing the pros and cons of leasing vs. buying a car will help you come to the decision that is right for you and your family.

What's the Difference Between Leasing and Buying a Car?

A car lease is a contract in which one party permits another party to drive a vehicle for a specified period of time in exchange for periodic payments, usually monthly installments. Unless your contract has the option to purchase the car at the end of the contract period, you must turn it back over to the lessor.

The difference between leasing a car and financing a car is that with financing, you are purchasing the vehicle. You will still make monthly payments, but at the end of the term, you'll own the car.

LEASING	**BUYING**
Lower monthly payments	Higher monthly payments
Return the car at the end of the lease	Keep the car
Better warranty protection	Post-warranty repair costs

Payments

A typical car lease payment can be significantly lower than your monthly payments would be if you were purchasing the same vehicle and financing it with a traditional personal auto loan. That's because lease payments are based on the depreciation in value of the vehicle over the course of the lease period instead of the vehicle's full value.

Ownership

Drivers can lease a vehicle that is nicer and more expensive than one they could afford to purchase. Leases generally run for two to four years, and when they expire, you are eligible to sign a lease on a new car. When your lease is up, you don't have to go through the time-

consuming resale process. You can jump right into a new leased vehicle and leave the sales hassle to someone else.[23]

When you buy a car, you don't have to give it back when the loan is up. But if you want to get rid of it, you'll need to find someone to buy it from you.

Warranties

Your new leased vehicle will likely remain under warranty throughout the lease period and, therefore, will rarely require anything more than routine maintenance. With a lease, you never have to worry about any mechanical failures. No matter what, you'll be covered.

When you buy a car, it may be covered under a warranty for a short time. However, unless you extend the warranty, you'll need to pay for all repairs out-of-pocket when it expires.

Which Is Right for Me?

Making monthly payments throughout the life of your lease requires a stable and predictable source of income. When you have a lease, it is harder to get out of the contract than it might be to sell a used vehicle.

Car leases typically have a stated (but negotiable) maximum number of miles that the lessee can drive per year, known as the mileage allowance. The standard mileage allowance for a private driver lease normally ranges from 10,000 to 15,000 miles per year. If a driver exceeds the mileage allowance, they'll be charged an additional fee per mile. If you do decide to take on the responsibility of a lease, make sure you read the fine print.

Although a lease has a lot of great perks, you'll often pay more in the long run for a comparable vehicle if you lease it rather than buying it. Leases often come with many fees and penalties. Upfront fees may include down payment, security, and license fees. Penalties may include default charges for late payments, fees for ending the lease before the agreed-to period, and wear-and-tear charges.[4]

Note

Simple things like procrastinating on regular maintenance can cost you a lot of extra money.

While selling a vehicle is seldom a money-making endeavor, you'll at least get something in return for your vehicle rather than walking away with nothing once your lease is up.[2]

When Buying Is Better

Buying may be the better decision if your goal is to minimize costs. When you buy a car, each loan payment goes toward owning your car outright. Most car loan terms are 4-6 years. After paying off your loan, you can drive the car without payments. You can also choose between trading it in for a new model or selling the vehicle. If you take good care of the vehicle, the resale value can help you recoup some of your expenses.[3]

Buying is also the better choice if you like to customize your car. The ability to do whatever you want, whenever you want, with your vehicle without the fear of additional fees is a great feeling. Even if you have a loan, the car is yours to do with as you wish. When you own your car, you can drive as much as you want and customize it to your heart's content.

If you drive a lot of miles, buying could be the right choice. You can drive as many miles as you want without worrying about penalties. There also are no wear-and-tear fees when your loan runs out, as there often are with leases.

As long as you are committed to driving your vehicle for an extended amount of time and have adequate car insurance coverage, you are unlikely to lose out financially.

```
import java.io.IOException;
import java.nio.file.Files;
import java.nio.file.Paths;
import java.util.List;
import java.lang.Object;
import java.util.Arrays;
import java.io.*;
import java.util.*;
import java.lang.Math;

/**
 *
 * @author sidharth
 */
public class AlgorithmsHW3 {
```

```
    /**
     *
**************************************************************************
************************
     *
     * PROBLEM SET 1
     * [10 points] fibonacci_exponential: compute nth fibonacci number
with an exponential running time
     * [10 points] fibonacci_linear: compute nth fibonacci number with
an exponential running time
     * [20 points] fibonacci_log: compute nth fibonacci number with a
logarithmic running time
     *
     * [10 points] Plot a graph showing the timings to compute the
first 30 fibonacci numbers using all three methods. And for the first
45 fibonacci numbers using the linear and logarithmic method.
                   X axis should be for the fibonacci number and y
axis should be for time.

**************************************************************************
************************
     */
    public int fibonacci_exponential(int n) {


      if(n==0){
        return 0;
     }else if(n== -1){
     return -1;
         }
```

```
         else{
        return fibonacci_exponential(n-1) + fibonacci_exponential(n-
2);
           }


    }


    public int fibonacci_linear(int n) {


      //array declaration for storing fibonacci numbers
  int a[] = new int[n + 1];
  int i;
  a[0] = 0;
  if(n > 0){
    a[1] =1;
    for(i = 2; i <= n; i++){
      a[i] = a[i - 1] + a[i - 2];
    }
  }
        return a[n];
    }
    }


    public int fibonacci_log(int n) {
```

```
      // TODO: Implement this
         return -1;
    }









    /**
     *
**************************************************************************
************************
     *
     * PROBLEM SET 2
     * [20 points] You are climbing a staircase. It takes n steps to
reach the top. Each time you can either climb 1 or 2 steps. In how
many distinct ways can you climb to the top?
     * Example Input: n = 3  Output: 3 | Explanation: (1 step + 1 step
+ 1 step), (1 step + 2 steps), and (2 steps + 1 step)
     *
     * [5 points] Print out the time take to find solution for n=0 to
n=45

**************************************************************************
************************
     */
    int climbStairs(int n) {
```

```
      // TODO: Implement this
         return -1;
    }



    /**
     *
**************************************************************************
************************
     *
     * PROBLEM SET 3
     *
     * [20 points] Given a triangle array, return the minimum path sum
from top to bottom.
     * For each step, you may move to an adjacent number of the row
below (if you are on index i on the current row, you may move to
either index i or index i + 1 on the next row).
     * Input: triangle = [[2],[3,4],[6,5,7],[4,1,8,3]]
       Output: 11
       Explanation: The triangle looks like:
              2
             3 4
            6 5 7
           4 1 8 3
     The minimum path sum from top to bottom is 2 + 3 + 5 + 1 = 11.
```

```
     [5 points]

     Print out the triangle (only for triangle with 4 levels) and the
answer

     Print out the correct answer for all triangles (from level 1 to
40)


**************************************************************************
*************************

     */

    public int minimumTotal(List<List<Integer>> triangle)

    {

      for (int i=0; i < triangle.size(); i++)

      {

        List<Integer> tlist = triangle.get(i);

        for (int j=0; j < tlist.size(); j++)

        {

          System.out.print(tlist.get(j)+ " ");

        }

        System.out.println();

      }

      System.out.println();




      // TODO: Implement this

         return -1;
```

```
}
```