**DOMAIN ANALYSIS**

. There are 26 attributes in this "imports-85"dataset

. SYMBOLING- Symboling corresponds to the degree to which the auto is more risky than its price indicates. Cars are initially assigned a risk factor symbol associated with its price. Then, if it is more risky (or less), this symbol is adjusted by moving it up (or down) the scale. A value of +3 indicates that the auto is risky, -3 that it is probably pretty safe.the value ranges from -3 to +3.

. NORMALIZED LOSSES- the relative average loss payment per insured vehicle year. This value is normalized for all autos within a particular size classification (two-door, small, station wagons, sports/specialty, etc…), and represents the average loss per car per year[65.0, 256.0].

. MAKE- A car's make is the brand of the vehicle, while the model refers to the name of a car product and sometimes a range of products. For example, Toyota is a car make and Camry is a car model. The make, model, model year, body style and trim level all have implications on the cost of a vehicle and its insurance rates.{ alfa-romero, audi, bmw, chevrolet, dodge, honda, isuzu, jaguar, mazda, mercedes-benz, mercury, mitsubishi, nissan, peugot, plymouth, porsche, renault, saab, subaru, toyota, volkswagen, volvo}

. FUEL TYPE- the majority of motor vehicles worldwide are powered by gasoline or diesel.{diesel, gas}

. ASPIRATION- A naturally aspirated engine, also known as a normally aspirated engine or NA, is an internal combustion engine in which air intake depends solely on atmospheric pressure and does not have forced induction through a turbocharger or a supercharger.{std, turbo}

. NUMBER OF DOORS- number of doors used for cars(two doors or four doors).

. BODY STYLE- Most cars are divided into 2-box and 3-box body styles, with up to four “pillars.” The pillars refer to posts or supports around the vehicle's windows. For instance, a sedan or hatchback will usually have 3 pillars, while an SUV or station wagon will have 4 pillars.{hardtop, wagon, sedan, hatchback, convertible}

. DRIVE WHEELS- A drive wheel is a wheel of a motor vehicle that transmits force, transforming torque into tractive force from the tires to the road, causing the vehicle to move. The powertrain delivers enough torque to the wheel to overcome stationary forces, resulting in the vehicle moving forwards or backwards.A two-wheel drive vehicle has two driven wheels, typically both at the front or back, while a four-wheel drive has four. Front-wheel drive vehicles typically have the rear wheels as trailer wheels {4wd, fwd, rwd}.

. ENGINE LOCTION- Most modern vehicles' engines are located to the front of the driver. However, some manufacturers placelocate the engine at some location point behind the driver{front, rear}.

. WHEEL BASE- A car's wheelbase is the distance between the centres of the front and rear wheels. It's therefore a smaller number than the car's full length, as measured from its front and rear end. ... You could fit an entire car in there[86.6,120.9].

. LENGTH- that the average length is about 15 to 16 feet, or 4.2 to 4.9 meters. The computation of average car length is said to be equal to the length of an Audi A4. While some cars are shorter and some cars are longer, the Audi A4 is considered an average car length. continuous from[ 141.1 to 208.1]

. WIDTH- the standard car size is, length=4.50m X width=1.80m. In practice, most cars are longer and wider than these measurements so, in the following examples we have considered an average car size of 4,70m to 1,90m.[60.3, 72.3]

. HEIGHT- A road car usually has a ride height around 16–17 cm (6.3–6.7 in), while an SUV usually lies around 19–22 cm (7.5–8.7 in).[47.8, 59.8]

. CURB WEIGHT- The “curb weight” of your car is the weight of the vehicle without any passenger or items in it except for the standard equipment that comes with it. This is the weight of your vehicle when it's not being used and resting on a flat surface.[1488.0, 4066.0]

. ENGINETYPE- type of engine used in cars{dohc, dohcv, l, ohc, ohcf, ohcv, rotor}

. NUMBER OF CYLINDERS- The cylinder is the power unit of the engine. This is where fuel is burned and converted into mechanical energy that powers the vehicle. The number of cylinders in a typical car could be four, six or eight. ... The exhaust gases created during combustion in the cylinder rotate an axle known as the crankshaf{eight, five, four, six, three, twelve, two}

. ENGINE SIZE- Engine size is the volume of fuel and air that can be pushed through a car's cylinders and is measured in cubic centimetres (cc). Car engine sizes are normally specified in litres, which is rounded up to the nearest tenth of a litre.[61.0, 326.0]

. FUEL SYSTEM- A vehicle's fuel system comprises components that deliver fuel from the tank to the engine, including a fuel pump, fuel lines, a fuel-pressure regulator, fuel filter and fuel injectors. Fuel system components are built to last, so the fuel filter is the only part that's likely to require replacement on a schedule.{1bbl, 2bbl, 4bbl, idi, mfi, mpfi, spdi, spfi}

. BORE- Bore is the inner diameter of the cylinder[2.54, 3.94]

. STROKE- the term stroke has the following related meanings: A phase of the engine's cycle (e.g. compression stroke, exhaust stroke), during which the piston travels from top to bottom or vice versa. ... "Stroke length", the distance travelled by the piston during each cycle.[2.07, 4.17]

. COMPRESSION RATIO- The compression ratio (CR) is defined as the ratio of the volume of the cylinder and its head space (including the pre-combustion chamber, if present) when the piston is at the bottom of its stroke to the volume of the head space when the piston is at the top of its travel ('top dead centre', tdc).[7.0, 23.0]

Higher compression ratio: 10.6

Lower compression ratio: 8.6

Baseline compression ratio: 9.6

. HORSE POWER- Horsepower (hp) is the metric used to indicate the power produced by a car's engine - the higher the number, the more power is sent to the wheels and, in theory, the faster it will go.[48.0, 288.0]

. PEAK RPM- RPM stands for revolutions per minute, and it's used as a measure of how fast any machine is operating at a given time. In cars, rpm measures how many times the engine's crankshaft makes one full rotation every minute, and along with it, how many times each piston goes up and down in its cylinder[4150.0, 6600.0]. the peak horsepower figure followed by the rpm at which it occurs, such as 252 hp at 5,600 rpm. .

. CITY.MPG- MPG, or miles per gallon, is the distance, measured in miles, that a car can travel per gallon of fuel. MPG is also the primary measurement of a car's fuel efficiency: The higher a car's MPG, the more fuel efficient it is.[13.0, 49.0]. City mpg generally is the lowest mpg rating for a vehicle primarily because of the frequent starting, stopping and idling

. HIGHWAY.MPG- Highway mpg typically is the highest because uninterrupted driving tends to burn less fuel.[16.0, 54.0]

. PRICE- price of a car is a target variable or a dependent on all the above features[5118.0, 45400.0]