

Project Report: Data Cleaning, Preparation, and Title Optimization

1. Introduction

This project involves cleaning, preparing, and optimizing product data to enhance readability, accuracy, and SEO effectiveness. The dataset consists of product listings with attributes such as product Id, titles, descriptions, bullet points, and product dimensions.

2. Objectives

The project aims to:

- Improve data quality by cleaning inconsistencies and handling missing values.
- Standardize and structure product attributes for better usability.
- Enhance product titles for improved clarity and search engine optimization (SEO).

3. Data Cleaning

Tasks Performed:

- Identified and removed duplicate entries based on `PRODUCTID`.
- Handled missing values in `TITLE`, `BULLET_POINTS`, and `DESCRIPTION` fields.
- Standardized text formatting (e.g., capitalization, special character removal).
- Unnecessary blank rows were replaced with 'Not Applicable'.
- Ensured `PRODUCT TYPE ID` and `PRODUCT LENGTH` contain valid values.

4. Data Preparation

Steps Taken:

- Extracted key phrases from `BULLET_POINTS` and `DESCRIPTION`.
- Structured data fields by categorizing product types.

- Normalized `PRODUCT LENGTH` values for consistency.
- Extra spaces and trailing characters were cleaned using Excel formulas (`SUBSTITUTE`, `TRIM`).

5. Title Optimization

Key Enhancements:

- Refined titles to be concise, informative, include essential details such as Brand, Category, and Key Attributes.
- Ensured that product titles were between ****30-50 characters**** for better readability.
- Capitalized the first letter of each word where necessary using `PROPER ()` function
- Ensured length constraints were met for different platforms.
- Improved readability by eliminating unnecessary symbols such as “[“.

6. Reporting & Insights

- Cleaned dataset with structured, optimized product names and verified attributes.
- Comparison of original and optimized product titles.
- Excel Formulas used for automation and efficiency.

7. Conclusion

By implementing these data cleaning, preparation, and optimization steps, the project enhances product data quality, ensuring improved searchability, user engagement, and consistency across platforms.

BELOW ARE SCREESHOTS ILLUSTRATING THE IMPACT OF DATA CLEANING AND TITLE OPTIMIZATION

A. BEFORE AND AFTER OF TITLE COLUMN:

TITLE
ArtzFolio Tulip Flowers Blackout Curtain for Door, Window & Room Eyelets & Tie Back Canvas Fabric Width 4.5feet (54inch) Height 5 feet (60 inch); Set of 2 PCS
Marks & Spencer Girls' Pyjama Sets T86_2561C_Navy Mix_9-10Y
PRIKNIK Horn Red Electric Air Horn Compressor Interior Dual Tone Trumpet Loud Compatible with SX4
ALISHAH Women's Cotton Ankle Length Leggings Combo of 2, Plus 12 Colors_L
The United Empire Loyalists: A Chronicle of the Great Migration
HINS Metal Bucket Shape Plant Pot for Indoor & Outdoor Gardening (Red, Medium) Plant Stands for Indoor Balcony I Plant Bench I Plant Stands I Pot Stand Single I Potted Plant Stand I Big Pots I Metal Ungifted: My Life and Journey
Delavala Self Adhesive Kitchen Backsplash Wallpaper, Oil Proof Aluminum Foil Kitchen Sticker (Silver 5(Mtr))
PUMA Cali Sport Clean Women's Sneakers White Leather (37540701)
Hexwell Essential oil for Home Fragrance Oil Aroma Diffuser oil Set of 2 Rajnigandha Oil & TeaTree Oil -10ML Each
3NHÂ® Glasses Goggles Anti Fog Antis Windproof Anti Dust Resistant
La Mure / Valbonnais gps
J'ecris des lettres! premiers exercices d'écriture 5-6 ans
Mediterranean diet for beginners: 7Benefits of mediterranean diet,7day plan and 70yummy easy recipes
SEGOVIA Single Walled Stainless Steel Sports fridge Water Bottle with SS Cap 1000 ml Bottle (straight+belly with sipper cap / cola+ smart with steel cap pack of 4 pcs)
Stone & Beam Fan Embossed Planter in Blue, Medium
Star Trek 50th Anniversary Cereamic Storage Jar
Steelbird Hi-Gn SBH-11 HUNK Glossy Black and Blue with Smoke visor,580 mm
Kenneth Cole REACTION Men's Crespo Loafer B Shoe, Cognac, 10 M US
MASTER OF THE RINGS
Cybrtrayd L049 No. 4 Lolly Chocolate Candy Mold, No. 4 with Exclusive Cybrtrayd Copyrighted Chocolate Molding Instructions
Twisted Swirl Vintage Blue Phone Case Compatible with iPhone 13,Orange Fluid Abstract Design Cover for Men Girl Women,Unique Soft TPU Bumper Case Cover
100 clă@s des villes sÂ"urs.Â Eu - Le TrĂ©port - Mers-
Training Camp: What the Best Do Better Than Everyone Else
Peru, Los Senderos Posibles
JSR CART Incense Cones Rose (Pack of 65 Cones)
Lowepro Hinshot 20 for Flip Video Camera (Black)

SHORT TITLE	PROPER SHORT TITLE
ArtzFolio Tulip Flowers Blackout Curtain	Artzfolio Tulip Flowers Blackout Curtain
Marks & Spencer Girls' Pyjama Sets	Marks & Spencer Girls' Pyjama Sets
PRIKNIK Horn Red Electric Air Horn	Priknik Horn Red Electric Air Horn
ALISHAH Women's Cotton Ankle Length	Alishah Women'S Cotton Ankle Length
The United Empire Loyalists: A Chronicle	The United Empire Loyalists: A Chronicle
HINS Metal Bucket Shape Plant Pot for	Hins Metal Bucket Shape Plant Pot For
Ungifted: My Life and Journey	Ungifted: My Life And Journey
Delavala Self Adhesive Kitchen Backsplash	Delavala Self Adhesive Kitchen Backsplash
PUMA Cali Sport Clean Women's Sneakers	Puma Cali Sport Clean Women'S Sneakers
Hexwell Essential oil for Home Fragrance	Hexwell Essential Oil For Home Fragrance
3NHÂ® Glasses Goggles Anti Fog Antis	3Nhâ® Glasses Goggles Anti Fog Antis
La Mure / Valbonnais gps	La Mure / Valbonnais Gps
J'ecris des lettres! premiers exercices	J'Ecris Des Lettres! Premiers Exercices
Mediterranean diet for beginners: 7Benefits	Mediterranean Diet For Beginners: 7Benefits
SEGOVIA Single Walled Stainless Steel	Segovia Single Walled Stainless Steel
Stone & Beam Fan Embossed Planter in	Stone & Beam Fan Embossed Planter In
Star Trek 50th Anniversary Cereamic	Star Trek 50Th Anniversary Cereamic
Steelbird Hi-Gn SBH-11 HUNK Glossy	Steelbird Hi-Gn Sbh-11 Hunk Glossy
Kenneth Cole REACTION Men's Crespo	Kenneth Cole Reaction Men'S Crespo
MASTER OF THE RINGS	Master Of The Rings
Cybrtrayd L049 No. 4 Lolly Chocolate	Cybrtrayd L049 No. 4 Lolly Chocolate
Twisted Swirl Vintage Blue Phone Case	Twisted Swirl Vintage Blue Phone Case
100 clă@s des villes sÂ"urs.Â Eu -	100 Clă@s Des Villes Sâ"Urs.Â Eu -
Training Camp: What the Best Do Better	Training Camp: What The Best Do Better
Peru, Los Senderos Posibles	Peru, Los Senderos Posibles
JSR CART Incense Cones Rose (Pack of	Jsr Cart Incense Cones Rose (Pack Of
Lowepro Hinshot 20 for Flip Video Camera	Lowepro Hinshot 20 For Flip Video Camera

B. BEFORE AND AFTER OF BULLET POINT COLUMN:

BULLET POINTS	
[LUXURIOUS & APPEALING: Beautiful custom-made curtains to decorate any home or office Includes inbuilt tieback to hold the curtain Completely finished and ready to hang on walls & windows,MATERIAL: Luxur	
[Harry Potter Hedwig Pyjamas (6-16 Yrs),100% cotton (exclusive of trimmings),Ribbing - 98% cotton, 2% elastane]	
[Loud Dual Tone Trumpet Horn, Compatible With SX4,Electric Air Horn with Compressor, Compatible With SX4,High Quality, High Intensity Horn Sound, Compatible With SX4,Color: Red, Compatible With SX4,Professi	
[Made By 95%cotton and 5% Lycra which gives you 4 ways stretchable comfort, GSM 180 to 190,Come with Elasticized Waist Band, Slim Fit,Bubble free fabric and High quality steaching, Bio Wash,Skin-friendly fabric,A	
Not Available	
[Simple and elegant, great for displaying indoor plants like succulent plants, air plants, seedling, herbs etc.,High Quality - Both Indoor/outdoor planter stand and flower pots are made of wrought iron material, with	
Not Available	
[HIGH QUALITY PVC MATERIAL: The kitchen aluminum foil stickers are made from plastic and aluminum foil, which is much stronger against high temperature than normal PVC sheet. The Anti-bacterial, Anti-mold, an	
[Style Name:-Cali Sport Clean Women's Sneakers,Upper Material:-Leather,Lower Material:-Rubber,Care Instructions: Wipe with a clean dry cloth,Warranty Period: 90 Days Manufacturers Warranty]	
[100% Pure And Natural Essential Oil Or Fragrance Oil, Each Bottle in 10ml of aromatherapy essential oils available.,This essential oil set could be used in professional environments like massage facilities, beauty sal	
[Good quality and Suitable to use.,This Product comes in a proper Packaging.,Delivery within 3-5 weeks,In case of any query or issue. Feel free to reach out to us.,Contains: Pack of 1]	
Not Available	
Not Available	
Not Available	
[Segovia bottle consists of stainless steel which provides a robust build for any occasion whether it be hiking, cycling, camping, gym or just to the office. Its special design along with its material is a testament to its d	
Not Available	
Not Available	
[High Impact ABS Material Shell,Replaceable and washable interior,Multi-layer EPS (Thermocol) High Density and low density For more Safety with Air Channels,Italian Design Hygienic Interior With Multipored Brea	
[Burnished metal center bit,Slightly padded Footbed]	
Not Available	
Not Available	
[Compatible Mode:€':This mobile phone case is only compatible with iPhone 13.It supports wireless charging. The precise cutout allows easy access to the charging port, buttons and camera.,and€Screen & Came	
Not Available	
Not Available	
Not Available	
[Completed Natural & Herbal.,Fragrances:- Rose,In Order To Have A Perfect Ornamental Effects,Please Burn The Incense Cones In Windless Conditions.,Keep Burning sticks away from flammable articles. Ashes shou	
Not Available	

PROPER CONCISE BULLETS POINTS	CONCISE DESCRIPTION
Luxurious & Appealing: Beautiful Custom-Made	Not Available
Harry Potter Hedwig Pyjamas (6-16 Yrs),100%	Not Available
Loud Dual Tone Trumpet Horn, Compatible	Specifications: Color: Red, Material: Alumi
Made By 95%Cotton And 5% Lycra Which Gives	AISHAH Women's Lycra Cotton Ankel Leggings. B
Not Available	Not Available
Simple And Elegant, Great For Displaying	HINS Brings you the most Elegant Looking Pot
Not Available	Not Available
High Quality Pvc Material: The Kitchen Aluminum	<p>Aluminum Foil Stickers-good kitche
Style Name:-Cali Sport Clean Women'S Sneakers,Upper	Not Available
100% Pure And Natural Essential Oil Or Fragrance	Transform your home, workplace or hotel room
Good Quality And Suitable To Use.,This Product	3NH Glasses Goggles Anti Fog Antis Windproof
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
Segovia Bottle Consists Of Stainless Steel	Segovia bottle consists of stainless steel wh
Not Available	Not Available
Not Available	Not Available
High Impact Abs Material Shell,Replaceable	Not Available
Burnished Metal Center Bit,Slightly Padded	Not Available
Not Available	MASTER OF THE RINGS
Not Available	Not Available
Compatible Mode€':This Mobile Phone	Welcome to our store. We aim to offer uniq
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
Completed Natural & Herbal.,Fragrances:-	PACK OF 65 INCENSE CONES. Best Quality Low Sm
Not Available	Not Available

C. BEFORE AND AFTER OF DESCRIPTION COLUMN:

1	DESCRIPTION
2	Not Available
3	Not Available
4	Specifications: Color: Red, Material: Aluminium, Voltage: 12V, dB: 130 dB (around), Material: Aluminum Pump Head + Steel Pump Body + ABS Shell and Parts DB output: 130db Voltage: 12v Sound Type: Dual Tone App
5	AISHAH Women's Lycra Cotton Ankel Leggings. Brand: ALISHAH Length: Ankel Length Leggings. Size Chart Medium: 28 - 30 inch Large: 30 - 32 inch X-Large: 32 - 34 inch 2X-Large: 34 - 38 inch The color fade will not be th
6	Not Available
7	HINS Brings you the most Elegant Looking Pot with Stand for durable and long life Pot Stands for your lovely garden space, office and home. HINS is one of the best choice when it comes to indoor plants. It makes a g
8	Not Available
9	<p>Aluminum Foil Stickers-good kitchen helper for mom and wife. Specification: Materials: high-quality PVC Si
10	Not Available
11	Transform your home, workplace or hotel room into your personal aromatherapy oasis! With elegantly designed diffusers and aroma diffuser oils, you can infuse essential oils into any setting and create a spa-like e
12	3NH Glasses Goggles Anti Fog Antis Windproof Anti Dust Resistant
13	Not Available
14	Not Available
15	Not Available
16	Segovia bottle consists of stainless steel which provides a robust build for any occasion whether it be hiking, cycling, camping, gym or just to the office. Its special design along with its material is a testament to its d
17	Not Available
18	Not Available
19	Not Available
20	Not Available
21	MASTER OF THE RINGS
22	Not Available
23	Welcome to our store. We aim to offer unique and special case for you. Compatibility Compatible with iPhone 13. This case is durable, sturdy and scratch-resistant, perfect for self use o
24	Not Available
25	Not Available
26	Not Available
27	PACK OF 65 INCENSE CONES. Best Quality Low Smoke Dhoop Cones By JSR Cart. Dhoop involves the offering of fragrance before the picture of a deity, as a token of respect. It has a pure and clean fragrance It creates
28	Not Available

R	S
CONCISE DESCRIPTION	PROPER CONCISE DESCRIPTION
Not Available	Not Available
Not Available	Not Available
Specifications: Color: Red, Material: Alumini	Specifications: Color: Red, Material: Alumini
AISHAH Women's Lycra Cotton Ankel Leggings. B	Aishah Women'S Lycra Cotton Ankel Leggings. B
Not Available	Not Available
HINS Brings you the most Elegant Looking Pot	Hins Brings You The Most Elegant Looking Pot
Not Available	Not Available
<p>Aluminum Foil Stickers-good kitche	<P>Aluminum Foil Stickers-Good Kitche
Not Available	Not Available
Transform your home, workplace or hotel room	Transform Your Home, Workplace Or Hotel Room
3NH Glasses Goggles Anti Fog Antis Windproof	3Nh Glasses Goggles Anti Fog Antis Windproof
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
Segovia bottle consists of stainless steel wh	Segovia Bottle Consists Of Stainless Steel Wh
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
MASTER OF THE RINGS	Master Of The Rings
Not Available	Not Available
Welcome to our store. We aim to offer uniq	Welcome To Our Store. We Aim To Offer Uniq
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
Not Available	Not Available
PACK OF 65 INCENSE CONES. Best Quality Low Sm	Pack Of 65 Incense Cones. Best Quality Low Sm
Not Available	Not Available