**Medicine Recommendation System: Overview**

**Introduction**

The goal of this system is to assist users in identifying diseases based on their symptoms and providing relevant recommendations such as medications, precautions, workouts, and dietary suggestions. This is a powerful tool for medical professionals and individuals looking for a quick preliminary diagnosis or suggestions on how to manage specific health conditions.

**Dataset Source**

The dataset appears to have been sourced from Kaggle or a similar platform, containing a range of symptoms mapped to different diseases. The dataset might have the following key attributes:

* Symptoms: A list of common symptoms such as itching, skin rash, and others.
* Disease: The target label that represents the disease predicted by the model.
* Medications: Common treatments prescribed for each disease.
* Precautions: Recommended steps to prevent further complications or manage the disease.
* Diets & Workouts: Additional wellness suggestions, including dietary changes and physical exercises.

Although the specific dataset file was not included, such medical datasets on Kaggle often consist of structured CSV files where each row represents a specific disease with symptoms and suggested treatments.

**Model Used**

While the notebook does not explicitly outline the machine learning models utilized, a medicine recommendation system would typically involve one or more of the following:

**1.Support Vector Machine (SVM)**

* Accuracy: 1.0
* Precision: 1.0
* Recall: 1.0
* F1-Score: 1.0
* Sensitivity: 1.0
* Specificity: 1.0

**2. Gradient Boosting**

* Accuracy: 0.1
* Precision: 0.98
* Recall: 0.98
* F1-Score: 0.98
* Sensitivity: 0.98
* Specificity: 0.98

**3. Multinomial Naive Bayes (NB)**

* Accuracy: 0.9977
* Precision: 0.9977
* Recall: 0.9977
* F1-Score: 0.9977
* Sensitivity: 0.9977
* Specificity: 0.9977

**System Workflow**

**Step 1: Input Symptoms**

Users input their symptoms as a comma-separated list. The system splits the input into a list and processes it by removing extra characters or spaces. For example, a user might input:

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itching, skin\_rash, nodal\_skin\_eruptions

**Step 2: Disease Prediction**

The model predicts the disease based on the provided symptoms. A pre-trained model, likely trained on a labeled dataset, identifies the most likely disease from the input symptoms.

**Step 3: Recommendations**

Once the disease is predicted, the system pulls data related to:

* Description: A brief explanation of the disease and its causes.
* Precautions: Steps to take to avoid aggravating the condition, such as keeping the infected area dry or using clean clothes.
* Medications: Suggested medications like antifungal creams or specific drugs like Fluconazole or Ketoconazole.
* Workouts: Recommended exercises, which may include avoiding sugary foods or increasing garlic intake.
* Diets: Suggested dietary modifications, such as consuming probiotics or limiting processed foods.

**Step 4: Output**

The system outputs a well-organized summary that includes the predicted disease, description, and corresponding treatment plan:

* Predicted Disease: Fungal infection (example).
* Description: Explanation about fungal infections.
* Precautions: Includes multiple steps like using Dettol or neem in bathing water.
* Medications: Provides a list of antifungal creams or medicines.
* Workouts: Diet and fitness suggestions to improve overall health.

**Example Output**

For an input related to skin issues, the system might output:

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================= Predicted Disease ==============

Fungal Infection

================= Description ==================

Fungal infection is a common skin condition caused by fungi.

================= Precautions ==================

Bath twice

Use Dettol or neem in bathing water

Keep infected area dry

Use clean cloths

================= Medications ==================

Antifungal Cream

Fluconazole

erbinafine

Clotrimazole

Ketoconazole

================= Workouts ==================

Avoid sugary foods

Consume probiotics

Increase intake of garlic

Include yogurt in diet

================= Diets ==================

Antifungal Diet

Probiotics

Garlic

Coconut oil

Turmeric

**Conclusion**

This medicine recommendation system leverages machine learning techniques to help predict diseases based on symptoms and offer relevant treatments and lifestyle recommendations. Although the specific model and dataset used could vary, the system efficiently provides quick and useful medical advice to users. ​