Rules and Constraints

This is a **gradient-free learning challenge** hosted on **Kaggle**.

Disallowed Methods

Participants must **not** use:

- Backpropagation or automatic differentiation
- Numerical or finite-difference gradient estimation
- Gradient-based optimizers (SGD, Adam, RMSProp, etc.)
- Pretrained models or externally trained weights
- AutoML systems that internally rely on gradients
- Any use of test labels or test data leakage

Violation of these rules may lead to disqualification.

Allowed Methods

Participants may use:

- Forward-only model evaluation
- Scalar loss or score feedback
- Randomized or perturbation-based optimization
- Evolutionary and population-based methods
- Classical machine learning models
- Rule-based or hybrid approaches
- Neural networks trained strictly without gradients

Data Usage

- Only the datasets provided on Kaggle may be used
- The training dataset includes labels
- The test dataset is provided without labels
- External datasets are not allowed unless explicitly stated

Submission Instructions

- Train your model using the training dataset
- Generate predictions for all samples in the test dataset
- Create a CSV file matching `sample_submission.csv`
- The submission file must contain:
    - `id`: row index of the test sample
    - `target`: predicted label or value
- Upload the CSV file on the Kaggle competition page
- Submissions are scored automatically on the hidden test set
- Multiple submissions are allowed; the leaderboard reflects the best score

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Evaluation

- Submissions are evaluated using the metric specified on the Kaggle leaderboard
- Rankings are based solely on performance on the hidden test set

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Enforcement

Participants must be able to clearly explain how their training process avoids gradients.
Any attempt to bypass the gradient-free constraint violates the spirit of the competition.

Summary

You may compute a loss.
You may not compute its gradient.