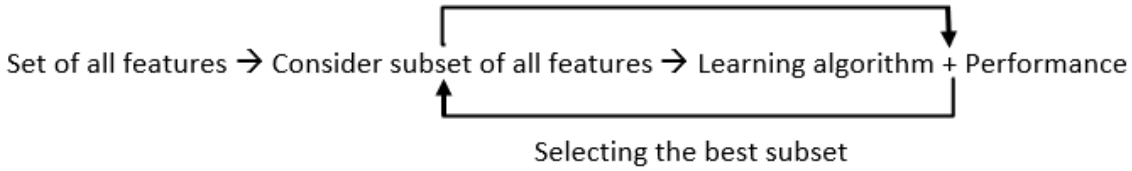
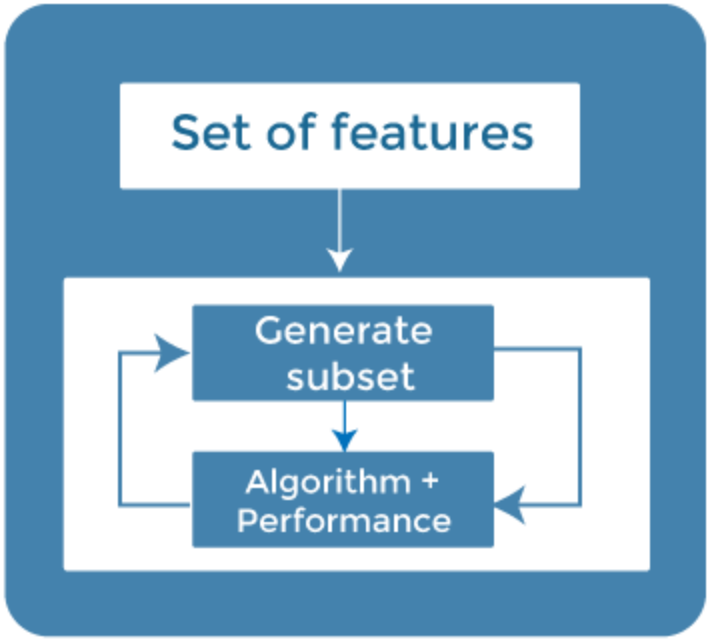
## Day 70 Feature Selection – Embedded Method By: Loga Aswin

- Embedded methods blend feature selection into learning algorithms, integrating selection mechanisms.
- They combine advantages of filter and wrapper methods, addressing their drawbacks.
- Faster than wrapper methods and more accurate than filter methods.
- Assess combinations of features, not just individual ones, for a broader perspective.




**Some techniques used are:**

- Regularization Techniques: Commonly used in linear models (e.g., LASSO, Ridge regression) to penalize or eliminate irrelevant or less important features.
- Tree-based Methods: Algorithms like Random Forest or Gradient Boosting inherently perform feature selection during training by assessing feature importance.
- Gradient Descent-based Methods: Neural networks can implement regularization techniques (e.g., dropout) that indirectly perform feature selection by preventing overfitting.




## Advantages:

- **Efficiency:** Reduces overfitting by selecting relevant features during model training, potentially leading to simpler and more interpretable models.
- **Automated Selection:** Eliminates the need for manual feature selection, saving time and effort in the modeling pipeline.
- **Improved Performance:** Often results in better model performance by focusing on the most relevant features.