A3 Issues List

Keycap Guardians

Issue #1(bug): Deprecate normalize parameter in calibration_curve

Link to Issue: https://github.com/scikit-learn/scikit-learn/issues/22482

Summary: The method calibration_curve takes in parameters *y_true, y_prob, normalize*(default=False), *n_bins*(default=5), and *strategy*(default='uniform').
The problem is, methodologically speaking, this method should only be used with probability input, meaning setting "normalize=True" is equivalent to having "a naive linear calibration with additional clipping for value above/under max/min." which is unnecessary and usually not what people would want if they understand the implications. We want to warn the user with a deprecation warning when such a case arises so they wouldn't unnecessarily normalize the input unless they still explicitly want to do so.

Issue #2(bug): Wrongly implemented test in RidgeCV

Link to issue: https://github.com/scikit-learn/scikit-learn/issues/16041

Bug source: *~/scikit-learn/sklearn/linear_model/tests/test_ridge.py*

```
def test_ridge_loo_cv_asym_scoring():
     # checking on asymmetric scoring
     scoring = 'explained_variance'
     n_samples, n_features = 10, 5
     X, y = _make_sparse_offset_regression(n_samples, n_features)
     loo_ridge = RidgeCV(cv=n_samples, fit_intercept=True,
                         alphas=alphas, scoring=scoring,
                         normalize=True)
     gcv_ridge = RidgeCV(fit_intercept=True,
                         alphas=alphas, scoring=scoring,
                         normalize=True)
     loo_ridge.fit(X, y)
     gcv_ridge.fit(X, y)
     assert gcv_ridge.alpha_ == pytest.approx(loo_ridge.alpha_)
```

Summary: Supposedly, the method *gcv_ridge* computes the error by aggregating all predictions and computing the *explained_variance* on all predictions.
However, *loo_ridge* makes a *GridSearchCV* which will compute the score for each individual sample (because of a *LooCV*) and then report the mean. In which case the explained variance will always be 1.0 since we are computing the variance on a single sample and therefore passing the test by chance.
The first step towards fixing this issue should be implementing a test that ensures *test_ridge_loo_cv_asym_scoring* is indeed testing non-trivial results as intended.

Issue Chosen: #22482

We chose to do issue #22482 over issue #16041 because we felt issue #22482 is more suitable for the given requirements of A3, since it is a bug in a method that we can fix(by adding a deprecation warning when input parameter is problematic), where as #16041's problem is their test is set up wrong and we'd be fixing a test.

"Testing"(as needed by A3) a test sounds weird, and it seems not suitable to create a design document(such as having a UML diagram) for a test fix. Thus we opted for issue #22482.