## Trace of Forward Selection (Using 4 Features)

```
Enter the number of features: 4
Welcome to Siddhant's Feature Selection Algorithm.
Total number of features: 4
Type the number of the algorithm you want to run.
1. Forward Selection
2. Backward Elimination
1
Running Forward Selection
Using no features and “random” evaluation, I get an accuracy of 25.94291780538356%
Beginning search.

 On the 1th level of the search tree
Considering adding the 1 feature
Using feature(s) [1] accuracy is 19.088767957282084%
Considering adding the 2 feature
Using feature(s) [2] accuracy is 81.84456306773244%
Considering adding the 3 feature
Using feature(s) [3] accuracy is 44.69193262107003%
Considering adding the 4 feature
Using feature(s) [4] accuracy is 33.7062892032711%
Feature set [2] was best, accuracy is 81.84456306773244%

 On the 2th level of the search tree
Considering adding the 1 feature
Using feature(s) [2, 1] accuracy is 25.38243887436137%
Considering adding the 3 feature
Using feature(s) [2, 3] accuracy is 76.10060318555804%
Considering adding the 4 feature
Using feature(s) [2, 4] accuracy is 93.7520018922082%
Feature set [2, 4] was best, accuracy is 93.7520018922082%

 On the 3th level of the search tree
Considering adding the 1 feature
Using feature(s) [2, 4, 1] accuracy is 52.41550545758936%
Considering adding the 3 feature
Using feature(s) [2, 4, 3] accuracy is 89.47047311633857%
Accuracy has started to decrease... Hence ending the search

Finished search!! The best feature subset is [2, 4], which has an accuracy of 93.7520018922082%
```

## Trace of Backward Elimination (Using 4 features)

```
Enter the number of features: 4
Welcome to Siddhant's Feature Selection Algorithm.
Total number of features: 4
Type the number of the algorithm you want to run.
1. Forward Selection
2. Backward Elimination
2
Running Backward Elimination
Using all features and “random” evaluation, I get an accuracy of 34.710002621725586%
Beginning search.

 On the 1th level of the search tree
Considering removing the 1 feature
Using feature(s) [0, 2, 3] accuracy is 66.22342099789262%
Considering removing the 2 feature
Using feature(s) [0, 3, 1] accuracy is 87.32986614402502%
Considering removing the 3 feature
Using feature(s) [0, 1, 2] accuracy is 27.82083683432488%
Feature set [0, 1, 3] was best, accuracy is 87.32986614402502%

 On the 2th level of the search tree
Considering removing the 1 feature
Using feature(s) [0, 3] accuracy is 96.42758031886913%
Considering removing the 3 feature
Using feature(s) [0, 1] accuracy is 65.536791182757%
Feature set [0, 3] was best, accuracy is 96.42758031886913%

 On the 3th level of the search tree
Considering removing the 3 feature
Using feature(s) [0] accuracy is 57.2235004689403%
Accuracy has started to decrease... Hence ending the search

Finished search!! The best feature subset is [0, 3], which has an accuracy of 96.42758031886913%
```