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$ ./test
Welcome to Pranay Thakur's Feature Selection Algorithm.
Please enter total number of features: 5
Type the number of the algorithm you want to run.
1. Forward Selection
2. Backward Elimination
3. Bi-Directional Search (Custom Algorithm)
1
Beginning Forward Selection...

  Using feature(s) {1} accuracy is 56.8%
  Using feature(s) {2} accuracy is 35%
  Using feature(s) {3} accuracy is 49.1%
  Using feature(s) {4} accuracy is 22.2%
  Using feature(s) {5} accuracy is 23.4%

Feature set {1} was best, accuracy is 56.8%

  Using feature(s) {1,2} accuracy is 51.9%
  Using feature(s) {1,3} accuracy is 53.7%
  Using feature(s) {1,4} accuracy is 33.6%
  Using feature(s) {1,5} accuracy is 70.8%

Feature set {1,5} was best, accuracy is 70.8%

  Using feature(s) {1,5,2} accuracy is 44.6%
  Using feature(s) {1,5,3} accuracy is 77.4%
  Using feature(s) {1,5,4} accuracy is 26.6%

Feature set {1,5,3} was best, accuracy is 77.4%

  Using feature(s) {1,5,3,2} accuracy is 48.3%
  Using feature(s) {1,5,3,4} accuracy is 62.9%

(Warning: Accuracy has decreased!)
Finished search!! The best feature subset is {1,5,3}, which has an accuracy of 77.4%

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```

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2
Beginning Backward Elimination...

  Using feature(s) {1,2,3,4,5} accuracy is 31.7%

  Using feature(s) {2,3,4,5} accuracy is 67.6%
  Using feature(s) {1,3,4,5} accuracy is 78.1%
  Using feature(s) {1,2,4,5} accuracy is 73.6%
  Using feature(s) {1,2,3,5} accuracy is 53.3%
  Using feature(s) {1,2,3,4} accuracy is 41.8%

Feature set {1,3,4,5} was best, accuracy is 78.1%

  Using feature(s) {3,4,5} accuracy is 35.1%
  Using feature(s) {1,4,5} accuracy is 56.6%
  Using feature(s) {1,3,5} accuracy is 61.1%
  Using feature(s) {1,3,4} accuracy is 33.6%

(Warning: Accuracy has decreased!)
Finished search!! The best feature subset is {1,3,4,5}, which has an accuracy of 78.1%

$ ./test
Welcome to Pranay Thakur's  Feature Selection Algorithm.
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1. Forward Selection
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3
Beginning Custom Algorithm (Bi-Directional Search)...

Initial backward set {1,2,3,4,5} accuracy is 51.8%

  Forward step: Using feature(s) {1} accuracy is 70.2%
  Forward step: Using feature(s) {2} accuracy is 78.7%
  Forward step: Using feature(s) {3} accuracy is 73.2%
  Forward step: Using feature(s) {4} accuracy is 53.4%
  Forward step: Using feature(s) {5} accuracy is 52.2%
  Forward: Feature set {2} was best, accuracy is 78.7%

  Backward step: Using feature(s) {2,3,4,5} accuracy is 20.1%
  Backward step: Using feature(s) {1,3,4,5} accuracy is 75.9%
  Backward step: Using feature(s) {1,2,4,5} accuracy is 47.7%
  Backward step: Using feature(s) {1,2,3,5} accuracy is 70.7%
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Backward step: Using feature(s) {1,2,3,4} accuracy is 58.9%
Backward: Feature set {1,3,4,5} was best, accuracy is 75.9%

(Warning: No improvement in both directions!)
Finished Bi-Directional Search!! The best feature subset is {2}, which has an accuracy of 78.7%