

# Bin Packing Lab

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## 1 Bin Packing Lab

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### 1.1 Task 1

#### 1.1.1 Explanation of SOLID principles

The given code follows many design practices and implements many classic design patterns. This allows it to fulfil a couple of the SOLID principles.

##### **S: Single Responsibility**

Each class has a single responsibility. For instance, the `DatasetReader` class is only responsible for transforming data from the disk into a format usable by other classes. Likewise, each concrete bin packing problem implementation has one responsibility: solving the bin packing problem.

##### **O: Open-closed**

The existence of the `Online` and `Offline` abstract classes allow for extensibility in the addition of new algorithms, without requiring modifications of any existing classes. The same reasoning applies for the `DatasetReader` class.

##### **L: Liskov substitution**

This is obviously satisfied with the `Online` and `Offline` base classes and its derived classes; the online and offline bin packing algorithms `NextFit_On`, `NextFit_Off`, and `BenMaier`, can be used as if they were their parent classes `Online` and `Offline`.

##### **I: Interface Segregation**

This property is also obviously maintained. Both `BinPacker` subclasses and `DatasetReader` only provide one abstract method each, which every subclass implements. The `BinPacker` interface itself has no methods, as there is currently no shared interface between the online and offline algorithms (the process functions take different sets of parameters).

##### **D: Dependency Inversion**

Similarly to the Liskov substitution principle, the abstract classes `Online` and `Offline` can be depended upon rather than their concrete subclasses. This is demonstrated in the Jupyter Notebook, in which online and offline strategies are created and used.

### 1.1.2 Explanation of dataset dimensions

There are three important dimensions which we consider in the dataset. - N: Number of items - C: Bin capacity - W: Weight (size) of each item

#### Number of items

This number represents the total number of items we want to put into bins. This quantity is important because the time and space required to solve the bin packing problem with N items is proportional to N.

#### Bin capacity

This number represents the capacity (maximum weight) of each bin. This quantity is important because the number of bins required in the optimal solution will be inversely proportional to the bin capacity. Some algorithms can take advantage of small capacities to come closer to an optimal solution.

#### Weight of each item

This number represents the weight (or size) of each item. This quantity is important because the weight of each bin (relative to the bin capacity) can dictate the number of bins required in the optimal solution. Additionally, the weight of the bins can impact the optimality of certain algorithms.

## 1.2 Task 2

```
[1]: # Run and visualize benchmark
BENCHMARK_FILENAME = "outputs/pyperf_measurements_capacity.json"

# Run the benchmark only if a benchmark results file outputted by pyperf does
↳not exist
import os
if not os.path.exists(BENCHMARK_FILENAME):
    print("Running benchmark. This may take some time, go get a coffee or
↳something...")
    !pipenv run python benchmark_capacity.py -o $BENCHMARK_FILENAME

import matplotlib.pyplot as plt
from pyperf import BenchmarkSuite
from benchmark_capacity import get_case_name, get_case_data, get_algo_name,
↳all_cases, all_offline, all_online, make_bench_name
num_cases = len(all_cases())
benchmarks = BenchmarkSuite.load(BENCHMARK_FILENAME).get_benchmarks()
execution_times = [bench.median() for bench in benchmarks]
time_idx = 0
```

```

results = [[] for _ in range(num_cases)]
padding = 50
# print("Each column represents a single test case, read columnwise to compare
↳ algorithms on the same input.\n\n")
# print("".join(f"Test Case {chr(i + 65)}".ljust(padding) for i in
↳ range(num_cases)))
# print(("=" * (padding * num_cases)) + "\n")
print(("=" * (padding)) + "\n")
for algorithm in all_online() + all_offline():
    lines = [""]*4
    for i, case in enumerate(all_cases()):
        name = get_case_name(case)
        data = get_case_data(case)
        bench_name = make_bench_name(name, algorithm)
        result = algorithm(data)
        results[i].append((result, get_algo_name(algorithm)))
        # lines[0] += f'Case: "{bench_name}":'.ljust(padding)
        # lines[1] += f'KPI 1: Num bins      = {result.num_bins}'.ljust(padding)
        # lines[2] += f'KPI 2: Wastefulness = {result.wastefulness}'.
↳ ljust(padding)
        # lines[3] += f'Execution time: {execution_times[time_idx] * 1000:.
↳ 3f}ms'.ljust(padding)
        print(f'Case: "{bench_name}":')
        print(f'KPI 1: Num bins      = {result.num_bins}')
        print(f'KPI 2: Wastefulness = {result.wastefulness}')
        print(f'Execution time: {execution_times[time_idx] * 1000:.3f}ms')
        time_idx += 1
        print("\n" + ("=" * (padding)) + "\n")
    # print("\n".join(lines))
    # print("\n" + ("=" * (padding * num_cases)) + "\n")

for i, row in enumerate(results):
    row.sort()
    _, ax1 = plt.subplots(1, 1)
    answers, names = zip(*row)
    n = len(answers)
    bar_x = [x for x in range(n)]
    bar1_x = [x-0.2 for x in bar_x]
    bar2_x = [x+0.2 for x in bar_x]
    data1 = [a.num_bins for a in answers]
    data2 = [a.wastefulness for a in answers]
    ax1.bar(bar1_x, data1, width=0.4)
    _ = plt.ylabel("Number of bins")
    _ = plt.xlabel("Algorithm name")
    ax2 = ax1.twinx()
    _ = plt.ylabel("Wastefulness")

```

```

ax2.bar(bar2_x, data2, width=0.4, color='tab:orange')
plt.xticks(bar_x, names)
ax1.set_xticks(ax1.get_xticks(), names, rotation=45, ha='right',
rotation_mode='anchor')
ax1.set_title(get_case_name(all_cases()[i]))

```

```

=====

Case: "N4C1W1_A.BPP_NextFit_Online":
KPI 1: Num bins      = 315
KPI 2: Wastefulness = 6387
Execution time: 0.105ms

```

```

=====

Case: "N1C3W1_A.BPP_NextFit_Online":
KPI 1: Num bins      = 19
KPI 2: Wastefulness = 469
Execution time: 0.010ms

```

```

=====

Case: "N1C1W4_A.BPP_NextFit_Online":
KPI 1: Num bins      = 42
KPI 2: Wastefulness = 1003
Execution time: 0.013ms

```

```

=====

Case: "N4C1W1_A.BPP_FirstFit_Online":
KPI 1: Num bins      = 250
KPI 2: Wastefulness = 1057
Execution time: 1.961ms

```

```

=====

Case: "N1C3W1_A.BPP_FirstFit_Online":
KPI 1: Num bins      = 17
KPI 2: Wastefulness = 169
Execution time: 0.027ms

```

```

=====

Case: "N1C1W4_A.BPP_FirstFit_Online":
KPI 1: Num bins      = 35
KPI 2: Wastefulness = 385
Execution time: 0.045ms

```

=====

Case: "N4C1W1\_A.BPP\_BestFit\_Online":

KPI 1: Num bins = 248

KPI 2: Wastefulness = 857

Execution time: 4.471ms

=====

Case: "N1C3W1\_A.BPP\_BestFit\_Online":

KPI 1: Num bins = 17

KPI 2: Wastefulness = 169

Execution time: 0.049ms

=====

Case: "N1C1W4\_A.BPP\_BestFit\_Online":

KPI 1: Num bins = 35

KPI 2: Wastefulness = 367

Execution time: 0.076ms

=====

Case: "N4C1W1\_A.BPP\_WorstFit\_Online":

KPI 1: Num bins = 276

KPI 2: Wastefulness = 3619

Execution time: 4.135ms

=====

Case: "N1C3W1\_A.BPP\_WorstFit\_Online":

KPI 1: Num bins = 18

KPI 2: Wastefulness = 319

Execution time: 0.045ms

=====

Case: "N1C1W4\_A.BPP\_WorstFit\_Online":

KPI 1: Num bins = 36

KPI 2: Wastefulness = 487

Execution time: 0.072ms

=====

Case: "N4C1W1\_A.BPP\_RefinedFirstFit\_Online":

KPI 1: Num bins = 302

KPI 2: Wastefulness = 6205

Execution time: 1.206ms

```
=====  
Case: "N1C3W1_A.BPP_RefinedFirstFit_Online":  
KPI 1: Num bins      = 23  
KPI 2: Wastefulness = 1027  
Execution time: 0.029ms
```

```
=====  
Case: "N1C1W4_A.BPP_RefinedFirstFit_Online":  
KPI 1: Num bins      = 41  
KPI 2: Wastefulness = 919  
Execution time: 0.042ms
```

```
=====  
Case: "N4C1W1_A.BPP_NextFit_Offline":  
KPI 1: Num bins      = 307  
KPI 2: Wastefulness = 6731  
Execution time: 0.168ms
```

```
=====  
Case: "N1C3W1_A.BPP_NextFit_Offline":  
KPI 1: Num bins      = 23  
KPI 2: Wastefulness = 1069  
Execution time: 0.017ms
```

```
=====  
Case: "N1C1W4_A.BPP_NextFit_Offline":  
KPI 1: Num bins      = 41  
KPI 2: Wastefulness = 947  
Execution time: 0.021ms
```

```
=====  
Case: "N4C1W1_A.BPP_FirstFitDecreasing_Offline":  
KPI 1: Num bins      = 241  
KPI 2: Wastefulness = 123  
Execution time: 2.225ms
```

```
=====  
Case: "N1C3W1_A.BPP_FirstFitDecreasing_Offline":  
KPI 1: Num bins      = 17  
KPI 2: Wastefulness = 47
```

Execution time: 0.037ms

=====

Case: "N1C1W4\_A.BPP\_FirstFitDecreasing\_Offline":

KPI 1: Num bins = 35

KPI 2: Wastefulness = 347

Execution time: 0.058ms

=====

Case: "N4C1W1\_A.BPP\_BestFitDecreasing\_Offline":

KPI 1: Num bins = 241

KPI 2: Wastefulness = 123

Execution time: 5.786ms

=====

Case: "N1C3W1\_A.BPP\_BestFitDecreasing\_Offline":

KPI 1: Num bins = 17

KPI 2: Wastefulness = 47

Execution time: 0.066ms

=====

Case: "N1C1W4\_A.BPP\_BestFitDecreasing\_Offline":

KPI 1: Num bins = 35

KPI 2: Wastefulness = 347

Execution time: 0.101ms

=====

Case: "N4C1W1\_A.BPP\_WorstFitDecreasing\_Offline":

KPI 1: Num bins = 241

KPI 2: Wastefulness = 157

Execution time: 5.211ms

=====

Case: "N1C3W1\_A.BPP\_WorstFitDecreasing\_Offline":

KPI 1: Num bins = 17

KPI 2: Wastefulness = 169

Execution time: 0.063ms

=====

Case: "N1C1W4\_A.BPP\_WorstFitDecreasing\_Offline":

KPI 1: Num bins = 35

KPI 2: Wastefulness = 347  
Execution time: 0.089ms

=====

Case: "N4C1W1\_A.BPP\_BenMaier\_Offline":  
KPI 1: Num bins = 241  
KPI 2: Wastefulness = 123  
Execution time: 10.388ms

=====

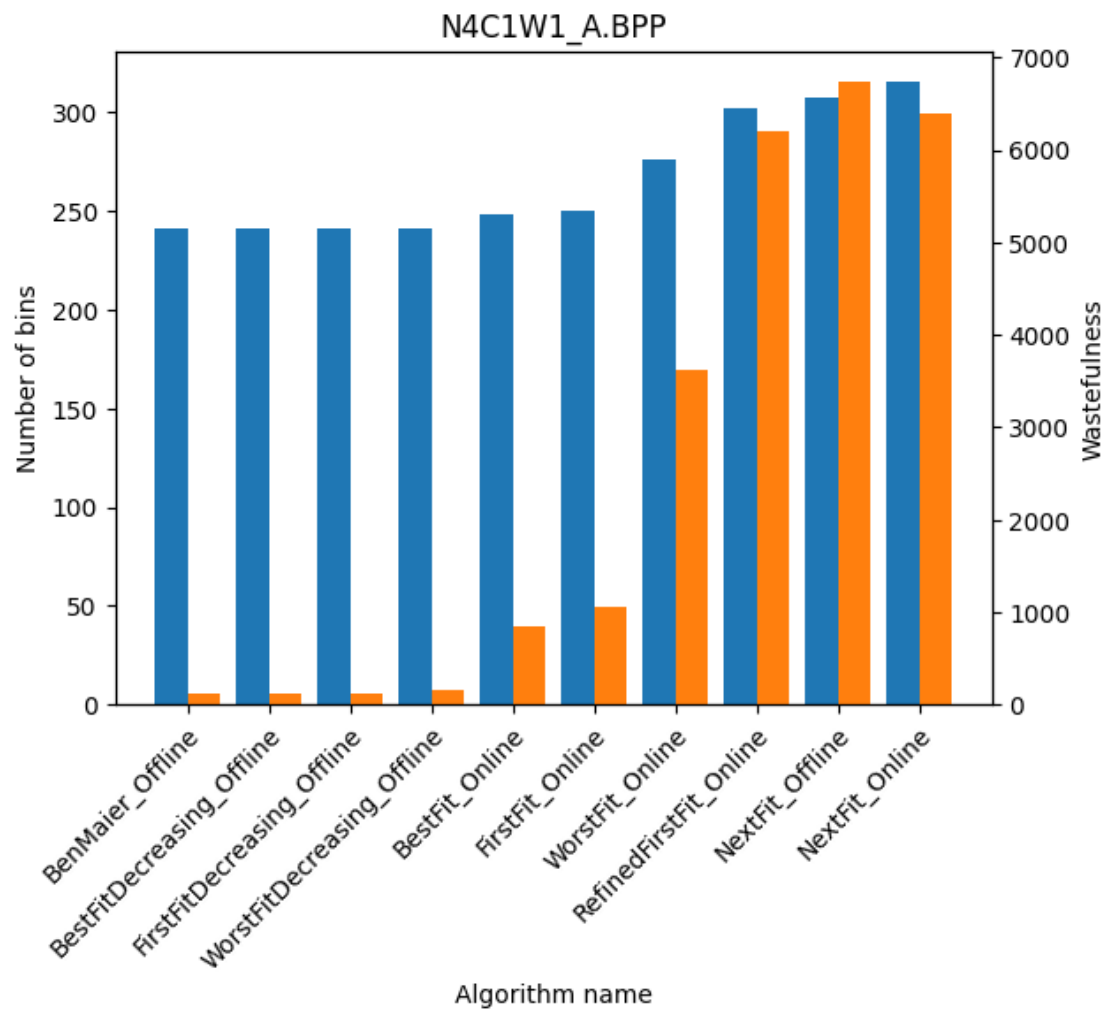
Case: "N1C3W1\_A.BPP\_BenMaier\_Offline":  
KPI 1: Num bins = 17  
KPI 2: Wastefulness = 47  
Execution time: 0.145ms

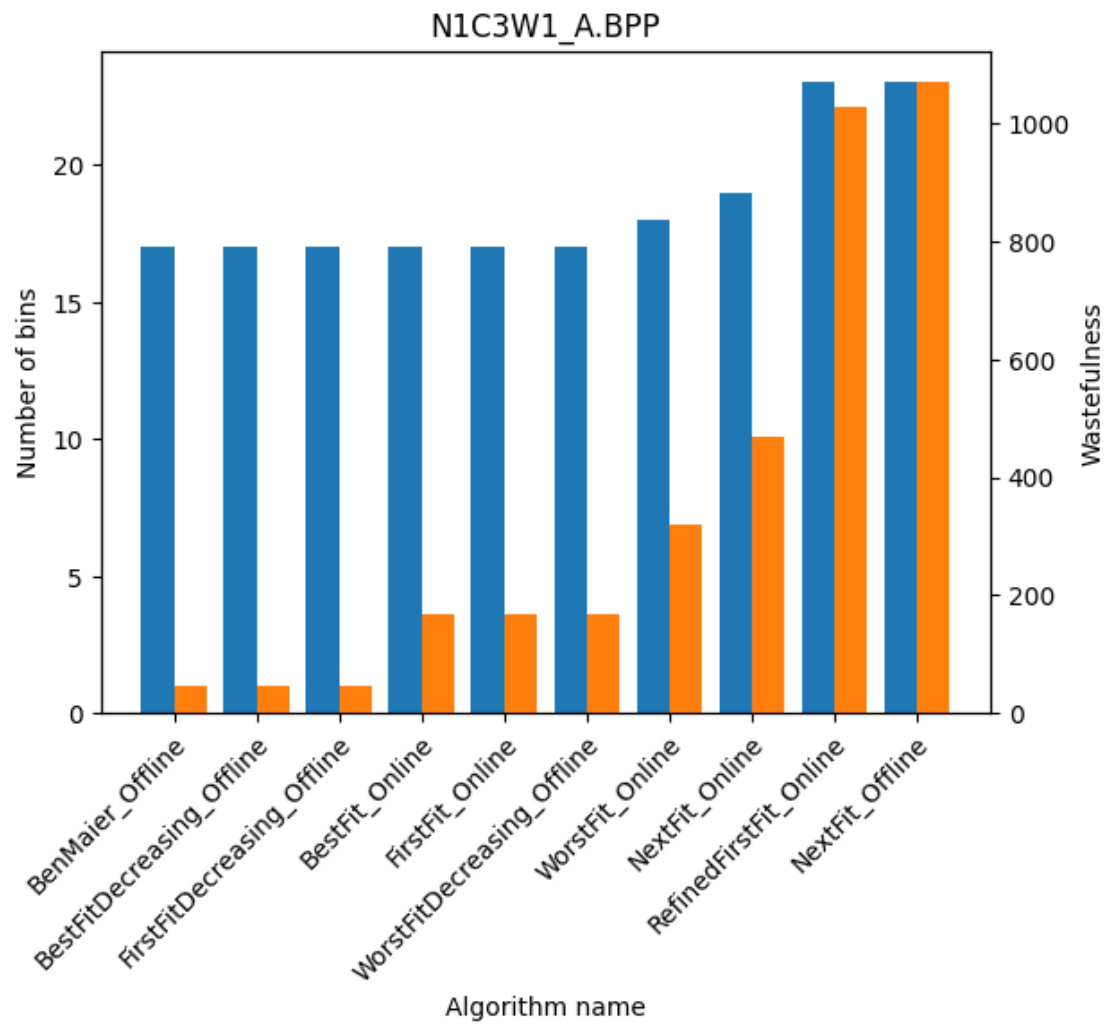
=====

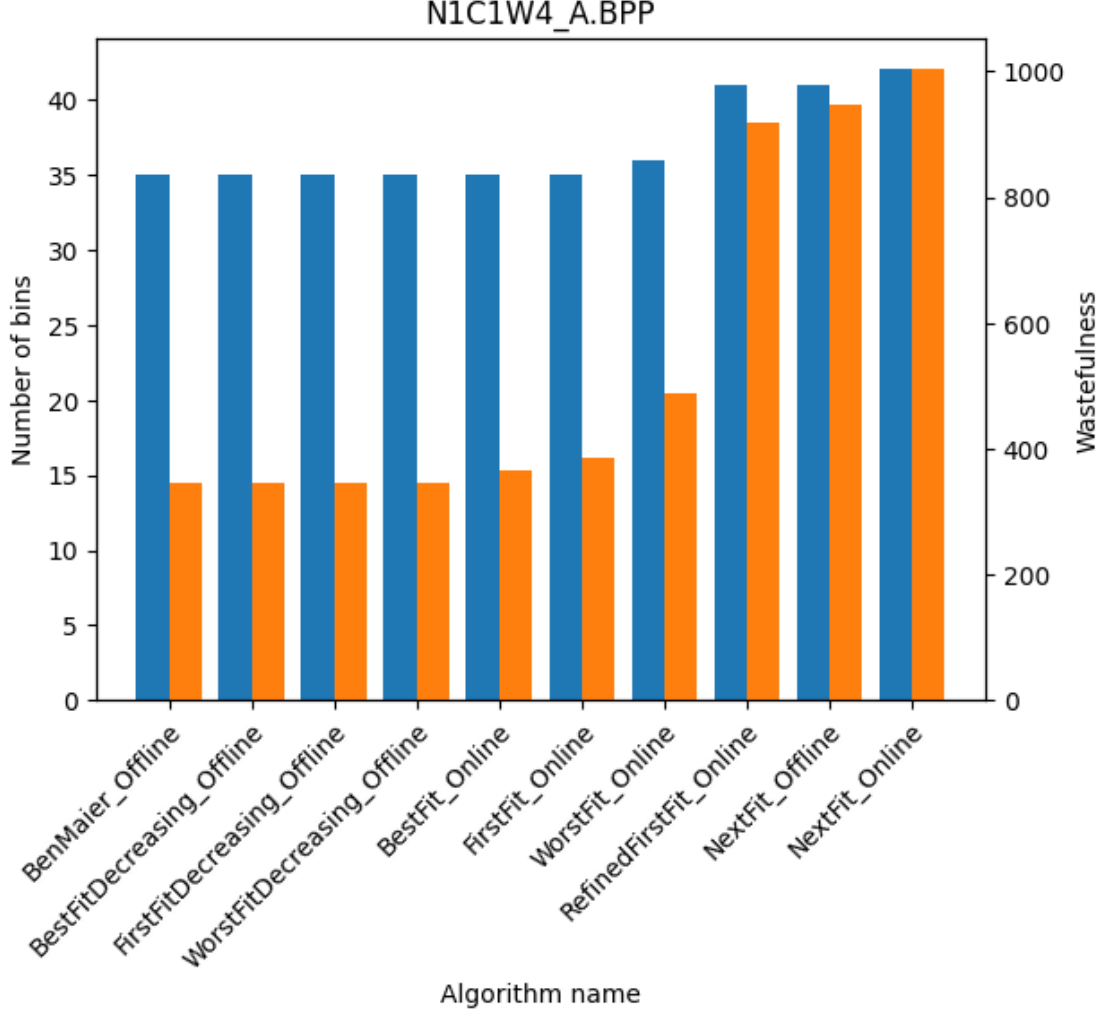
Case: "N1C1W4\_A.BPP\_BenMaier\_Offline":  
KPI 1: Num bins = 35  
KPI 2: Wastefulness = 347  
Execution time: 0.180ms

=====









**Benchmarking** For our benchmarking, we selected three test cases from the Binpp dataset to stress our algorithms. We chose our cases to isolate each dimension of the bin packing problem (N, C, and W). For example, one test case uses an input with N4 (representing 500 items to be placed into bins), whilst the other two test cases had N1 (representing only 50 items to be placed into bins). We isolated capacity and weight the same way as well.

In order to analyse the different algorithms, we define key metrics that we use to measure the effectiveness of each algorithm. The number of bins used is the primary metric. The goal of these algorithms is the use the least number of bins, thus the number of bins used will be the the most important measure (to minimize). Another metric is the “wastefulness” of the algorithm. This measures how close each bin in a solution is to being either completely full, or completely empty. We wish to minimize this, as we want to avoid having many bins that are half-full. Having half-full bins is wasteful because it is not possible to fit items with large weights into these bins. This metric will be used to compare algorithms that output the same number of bins, and “break ties” between seemingly equal solutions.

**Analysis of algorithms** After creating and analyzing the graphs, we observed that the naive NextFit (Online and Offline) algorithms perform the worst by far. This aligns with our expectations, as that algorithm is the most “short-sighted”. Also as we’d expect, the online version performs much worse than the offline version. The next worst algorithm is WorstFit, but is far better than NextFit. All the other algorithms perform similarly to each other, with the notable exception that the offline algorithms almost always do better than their online counterparts. This also makes sense, as the impact of pre-sorting does cause for more efficient packings. All the non-naive offline algorithms tie with the baseline algorithm by BenMaier, although the “wastefulness” scores vary slightly in favour of the baseline. Looking at the publicly available source code of the baseline algorithm, this makes sense, as they basically implemented a variation of BestFitDecreasing. One slightly amusing result was that the baseline algorithm was by far the slowest, taking approximately 10ms on the large test case. In comparison, our slow  $N^2$  implementations run in about 4ms and 5ms for the same input.

### 1.3 Task 3

```
[2]: from macpacking.utils import read_csv_contents
from macpacking.reader import BinppReader, JBurkardtReader

from os import listdir
from os.path import join, isdir, basename
datasets = [
    join('.', '_datasets', 'binpp'),
    join('.', '_datasets', 'binpp-hard'),
    join('.', '_datasets', 'jburkardt'),
]

case_data = {}
oracle = {}
for dataset in datasets:
    oracle_path = join(dataset, "oracle.csv")
    oracle_contents = read_csv_contents(oracle_path)
    for entry in oracle_contents:
        oracle[entry['Problem']] = entry['Optimal']

binpp_dir = datasets[0]
for folder in listdir(binpp_dir):
    folder = join(binpp_dir, folder)
    if not isdir(folder): continue
    for test_case in listdir(folder):
        test_case = join(folder, test_case)
        name = basename(test_case)[:8]
        reader = BinppReader(test_case)
        case_data[name] = reader.offline()

binpp_hard_dir = datasets[1]
```

```

for test_case in listdir(binpp_hard_dir):
    if not test_case.startswith('HARD'):
        continue
    test_case = join(binpp_hard_dir, test_case)
    name = basename(test_case)[:8]
    reader = BinppReader(test_case)
    case_data[name] = reader.offline()

import re
jburkardt_dir = datasets[2]
for test_case in listdir(jburkardt_dir):
    match = re.findall("p(\d+)_c.txt", test_case)
    if len(match) == 0: continue
    case_num = match[0]
    name = f"p_{case_num}"
    capacity_file = join(jburkardt_dir, f"p{case_num}_c.txt")
    weights_file = join(jburkardt_dir, f"p{case_num}_w.txt")
    reader = JBurkardtReader(capacity_file, weights_file)
    case_data[name] = reader.offline()

from macpacking.algorithms.capacity.offline import BinCompletion
from collections import defaultdict
case_results = defaultdict(dict)
algorithms = all_online() + all_offline()
for name, data in case_data.items():
    for algorithm in algorithms:
        result = algorithm(data)
        case_results[name][get_algo_name(algorithm)] = result

```

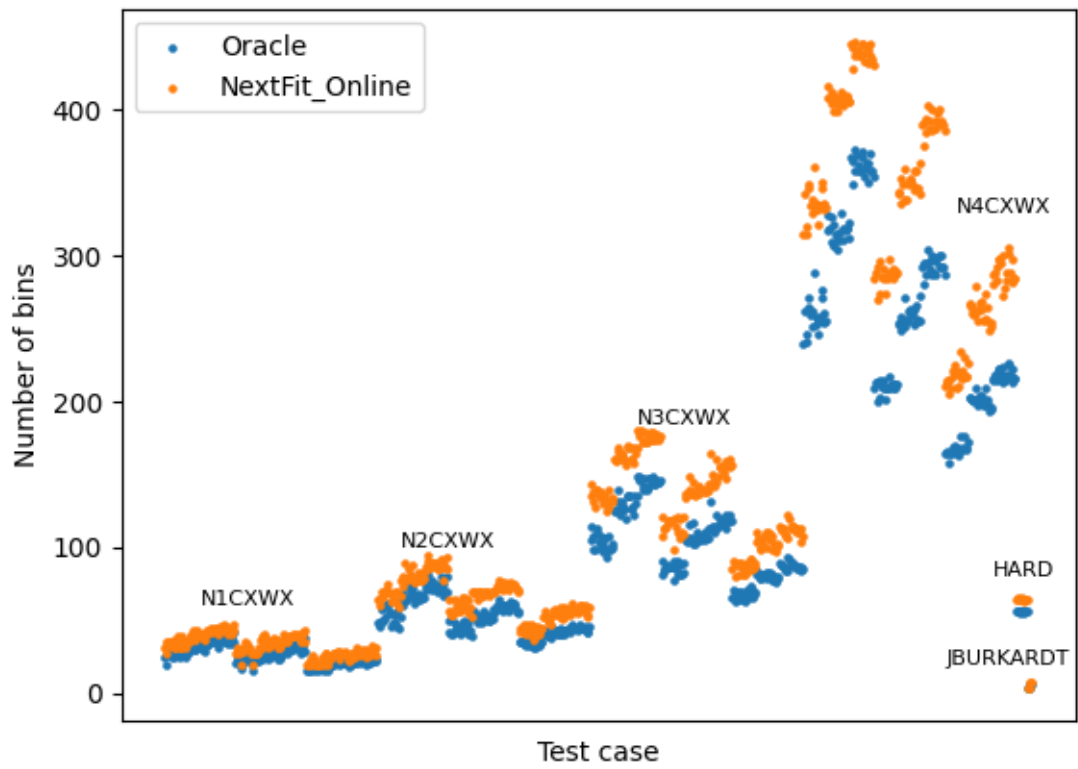
```

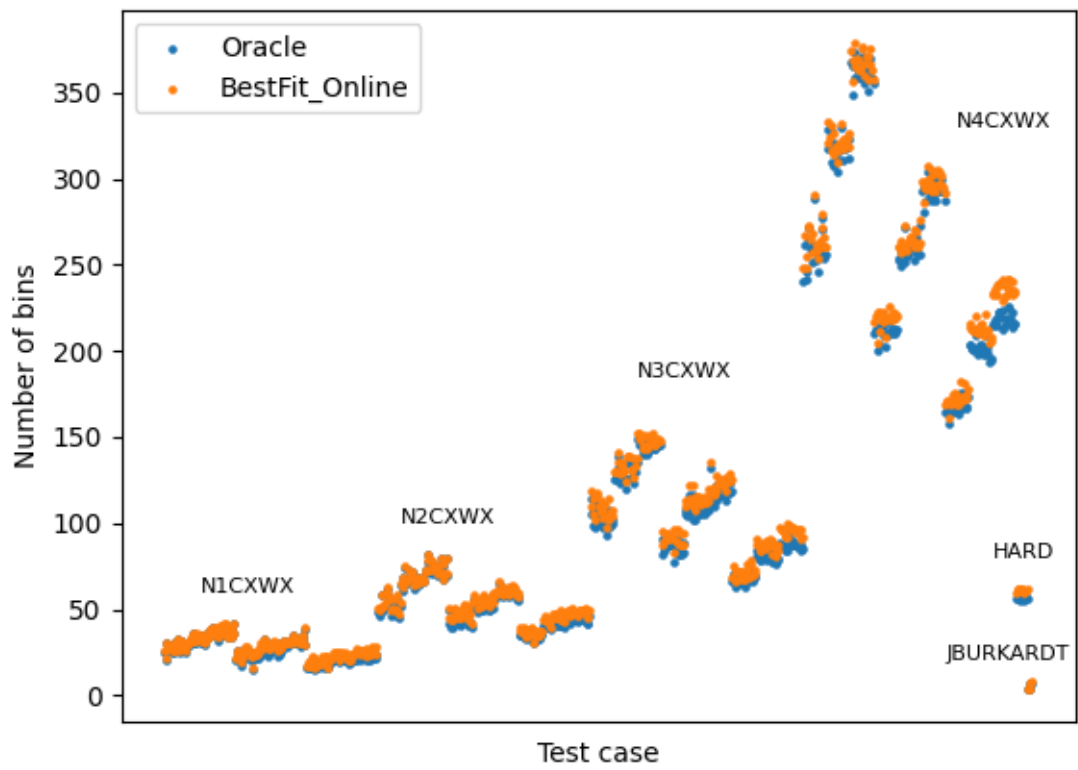
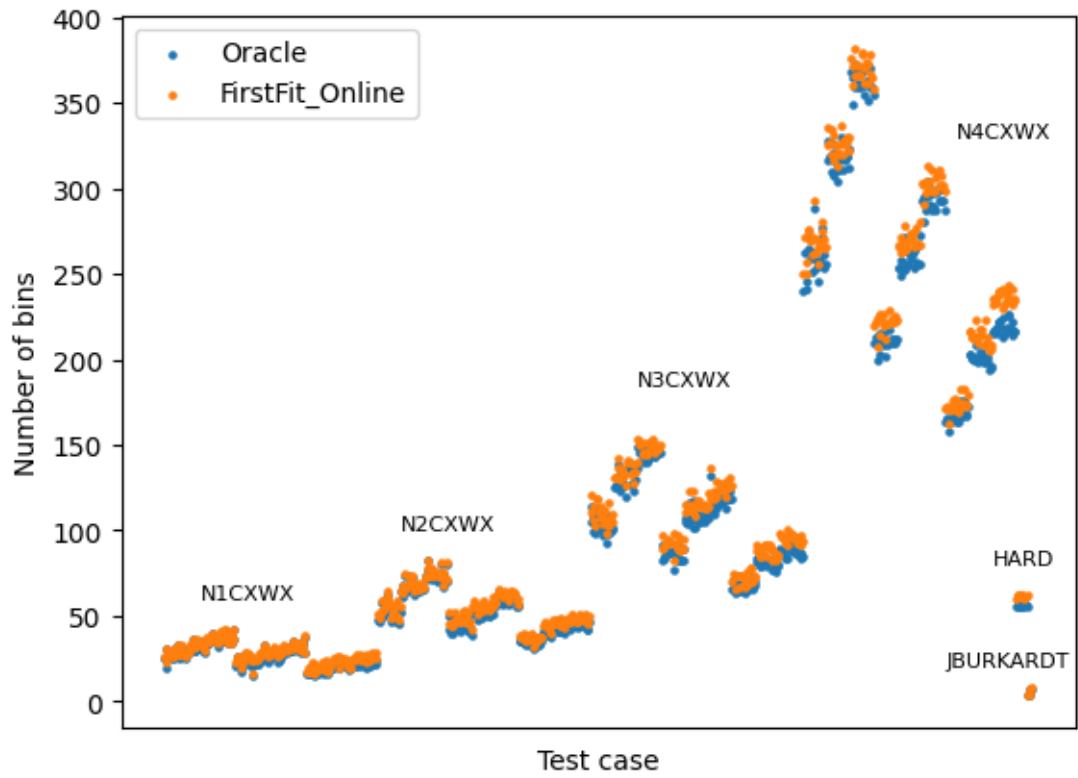
[3]: results_per_algo = {}
for algorithm in algorithms:
    name = get_algo_name(algorithm)
    results_per_algo[name] = {k:d[name] for k, d in case_results.items()}

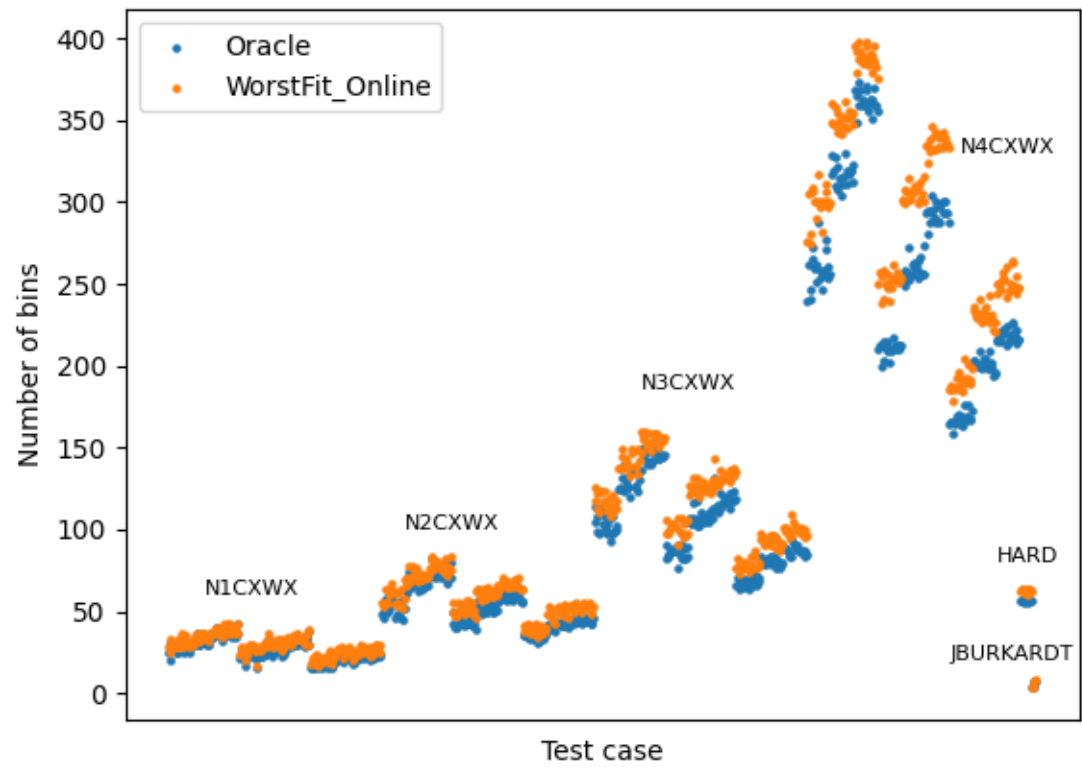
for k, v in results_per_algo.items():
    _, ax = plt.subplots(1, 1)
    plt.xticks([])
    aa, bb = list(zip(*oracle.items()))
    ax.scatter(aa, bb, s=5, label="Oracle")
    aa, bb = list(zip(*v.items()))
    ax.scatter(aa, [a.num_bins for a in bb], s=5, label=k)
    ax.legend()
    ax.annotate('N1CXWX', xy=(0,0),xytext=(30,60), fontsize=8)
    ax.annotate('N2CXWX', xy=(0,0),xytext=(200,100), fontsize=8)
    ax.annotate('N3CXWX', xy=(0,0),xytext=(400,185), fontsize=8)
    ax.annotate('N4CXWX', xy=(0,0),xytext=(670,330), fontsize=8)
    ax.annotate('HARD', xy=(0,0),xytext=(700,80), fontsize=8)
    ax.annotate('JBURKARDT', xy=(0,0),xytext=(660,20), fontsize=8)

```

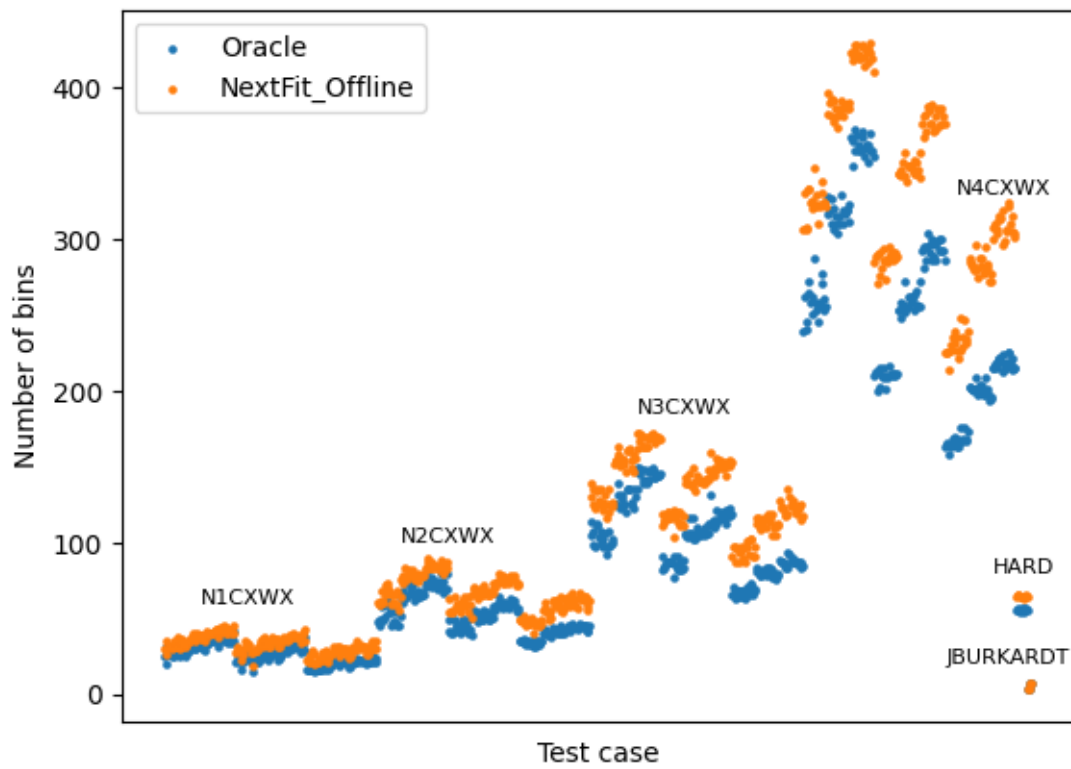
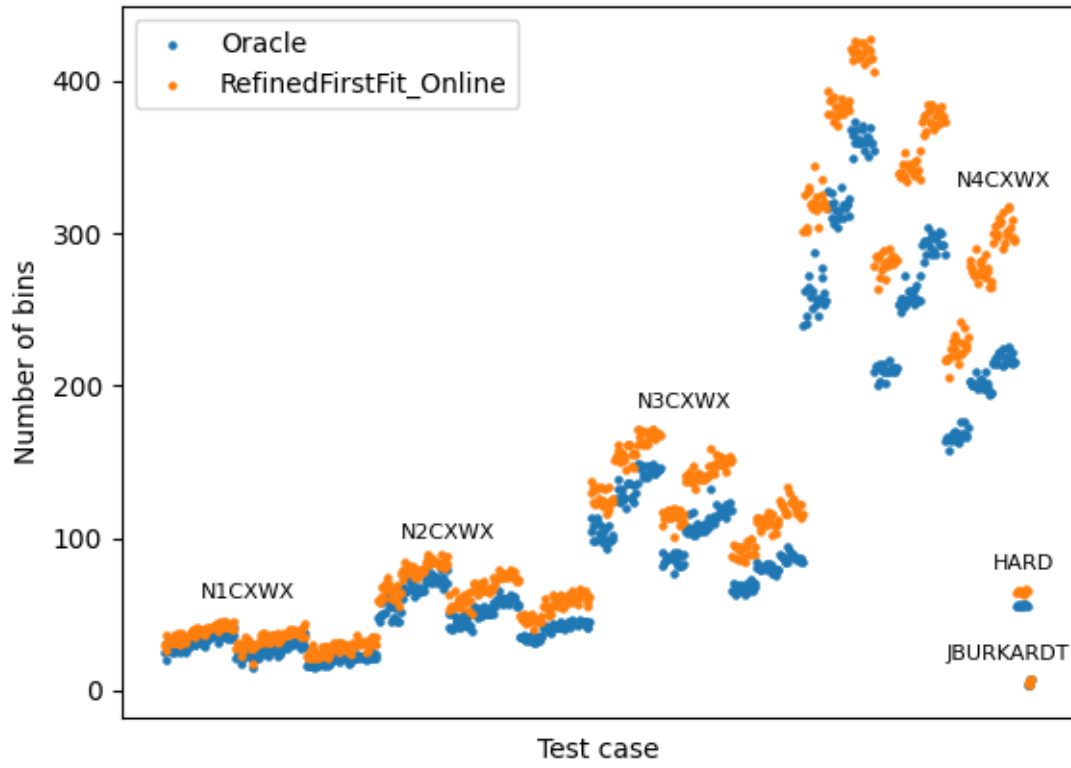
```
plt.ylabel("Number of bins")
plt.xlabel("Test case")
```

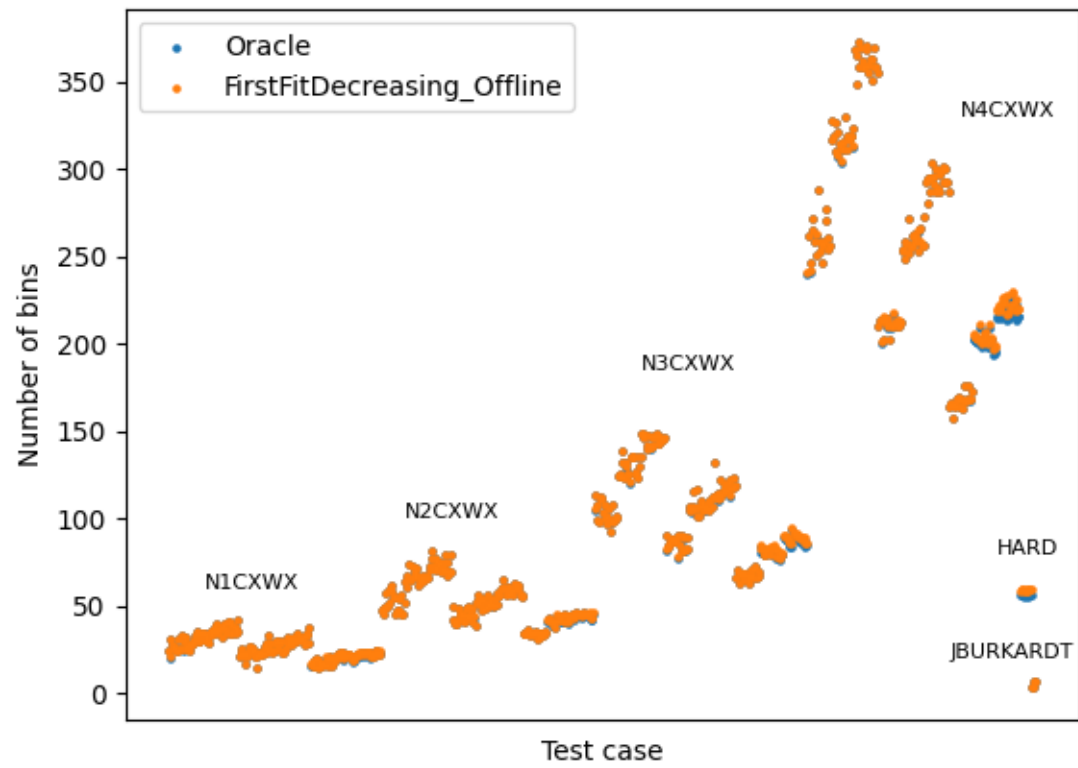


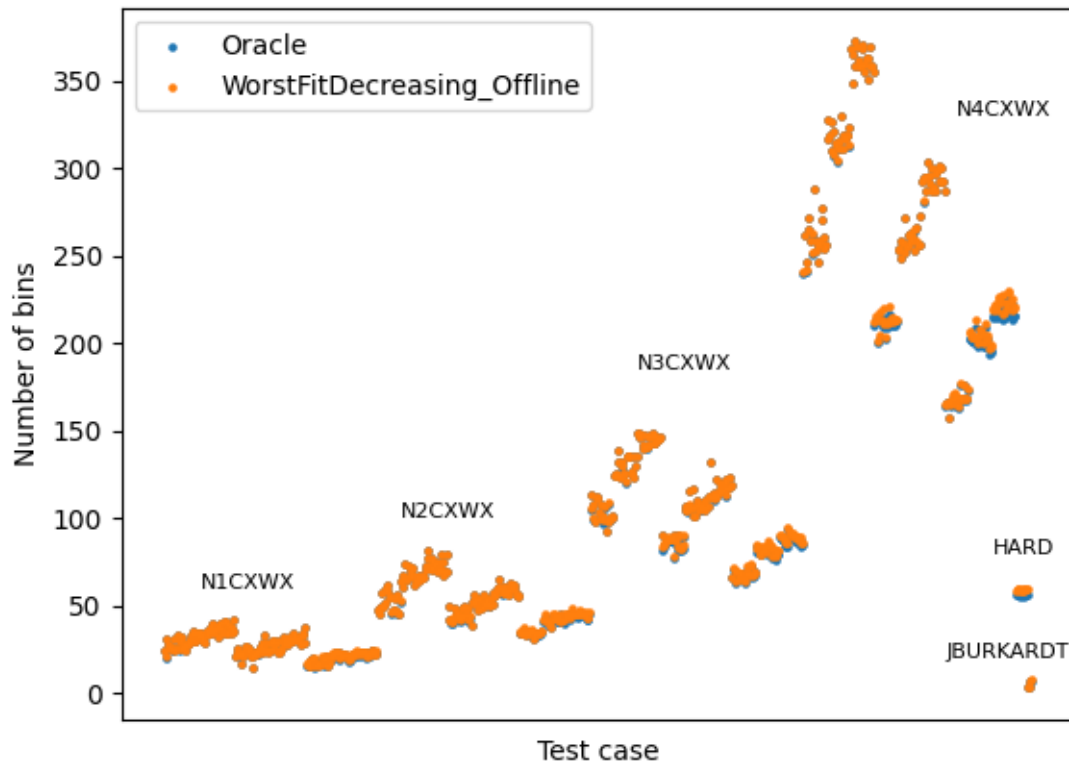
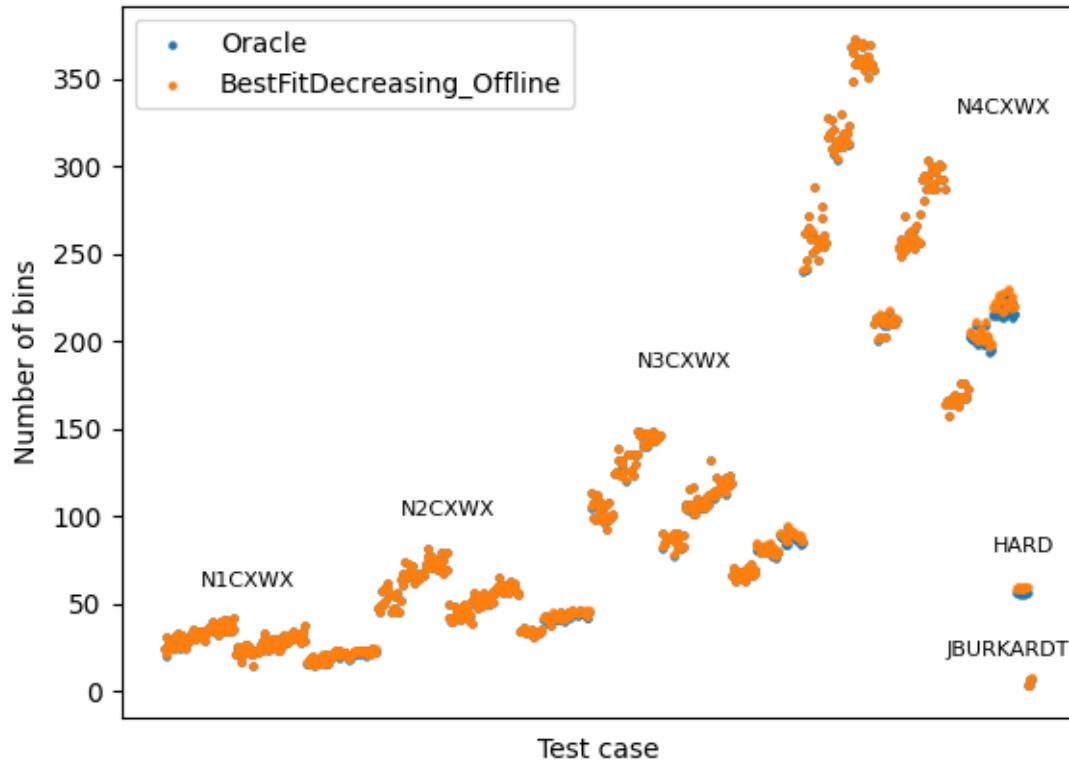


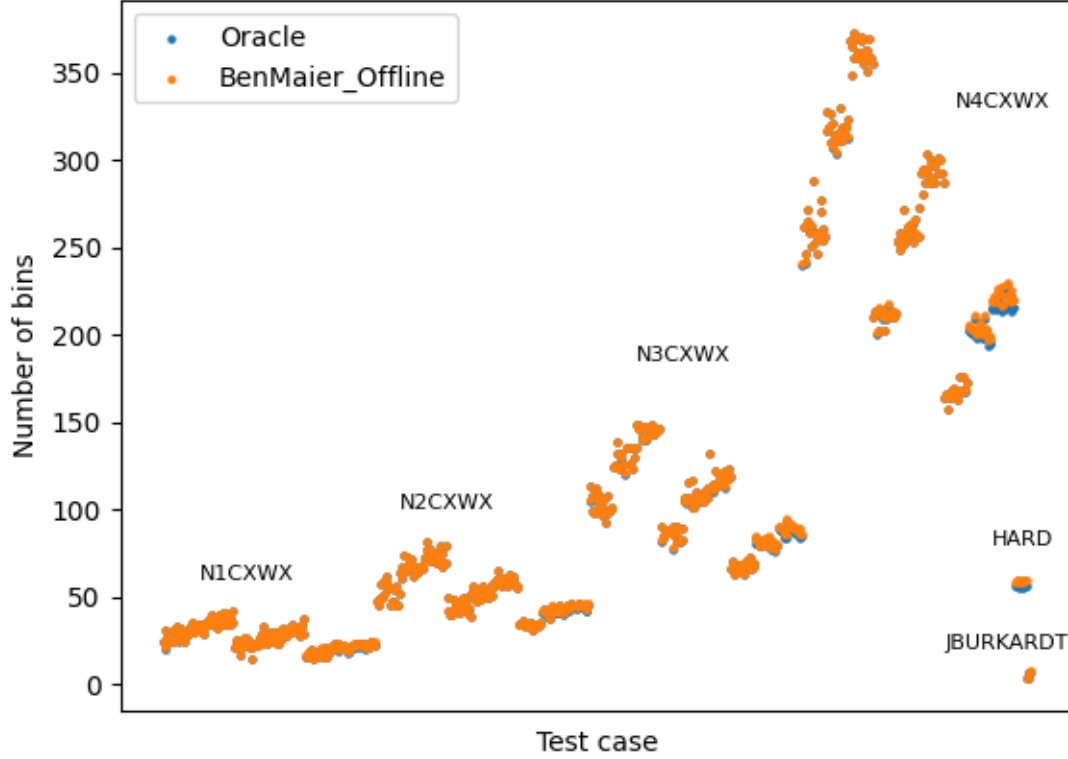












**Which cases are problematic** We used a scatter plot for each algorithm to plot it against the optimal solution given in the `oracle.xlsx` file. In each plot, the x-axis is each test case and the y-axis is the number of bins. For each plot, the orange points represent the numbers of bins used by the algorithm, and the blue points represent the optimal solution for the same input (as given by the oracle). We use a scatter plot because it becomes very easy to compare the solutions to the optimal solution; we simply look at the difference in height of the orange clusters and the blue clusters. Since the different test cases are plotted on the x-axis, we can visually recognize clusters of test cases in our datasets. Most of the cases come from the **Binpp** dataset. There are four main clusters (each annotated “N\_CXWX”) which represent test cases with some number of items (N1(50), N2(100), N3(200), N4(500)) to pack. Each “sub-cluster” (three in each main cluster) shows test cases with a different bin capacity (C1(100), C2(120), C3(150)). After recognizing these clusters, we can easily search for patterns in our results. We can also observe the **BinppHard** and **JBurkardt** datasets as small clusters in the bottom right of each plot. These datasets are not as useful to us since there are less test cases within them.

From the plots, we can see that the **BenMaier** (Offline), **WorstFitDecreasing** (Offline), **BestFitDecreasing** (Offline), and **FirstFitDecreasing** (Offline) algorithms provide solutions that are nearly optimal, with some test cases as exceptions. However, every other algorithm provides solutions that are far from optimal, even for smaller simple inputs. Again, this makes sense intuitively, as the other algorithms are either naive algorithms, or Online. The non-optimality of

these algorithms is even more pronounced for test cases with larger values of  $N$  (N3 and N4 test cases have 200 items and 500 items, respectively). Higher values of  $N$  exemplify the poor performance of the naive algorithms, and how far they stray away from the optimal solution. Thus, the most problematic test cases tend to be those with more items to pack. Naturally, this makes sense, as the more items you have, the more possible arrangements of bins exist. Since more arrangements exist, there are more arrangements that are non-optimal. Most of the time, it becomes very difficult for the naive algorithms to compute the ideal way to allocate the items into bins.

## 1.4 Task 4

In the RFF algorithm, for every item, we put it into a bin within a classification, based on the weight of the item. We are also applying the first fit rule for each of the classes, as we are adding the items. This method of partitioning the items is bad, as demonstrated by the findings in our tests.

The algorithm is not an AnyFit algorithm, since it creates new bins despite the fact that the current can fit into an existing bin. In many cases, this leads to a worse performance than many of our traditional algorithms, such as `FirstFitDecreasing`. Often times, RFF gives a non-optimal solution, due to the extra, unneeded bins it creates.

## 1.5 Task 5

```
[4]: # Run and visualize benchmark
BENCHMARK_FILENAME = "outputs/pyperf_measurements_num_bins.json"

# Run the benchmark only if a benchmark results file outputted by pyperf does
↳not exist
import os
if not os.path.exists(BENCHMARK_FILENAME):
    print("Running benchmark. This may take some time, go get a coffee or
↳something...")
    !pipenv run python benchmark_num_bins.py -o $BENCHMARK_FILENAME

import matplotlib.pyplot as plt
from pyperf import BenchmarkSuite
from benchmark_num_bins import get_case_name, get_case_data, get_algo_name,
↳all_cases, all_num_bins, all_offline, all_online, make_bench_name
num_cases = len(all_num_bins())
benchmarks = BenchmarkSuite.load(BENCHMARK_FILENAME).get_benchmarks()
execution_times = [bench.median() for bench in benchmarks]
time_idx = 0

results = [[] for _ in range(num_cases)]
padding = 50
# print("Each column represents a single test case, read columnwise to compare
↳algorithms on the same input.\n\n")
# print("".join(f"{x} bins".ljust(padding) for x in all_num_bins()))
```

```

# print(("=" * (padding * num_cases)) + "\n")
print(("=" * (padding)) + "\n")
for algorithm in all_online() + all_offline():
    # lines = [""]*4
    for i, num_bins in enumerate(all_num_bins()):
        for case in all_cases():
            name = get_case_name(case)
            data = get_case_data(case)
            bench_name = make_bench_name(name, algorithm) + f"_{num_bins}"
            result = algorithm((num_bins, data[1]))
            results[i].append((result, get_algo_name(algorithm)))
            # lines[0] += f'Case: "{bench_name}":'.ljust(padding)
            # lines[1] += f'KPI 1: Largest bin = {result.largest}'.
↪ljust(padding)
            # lines[2] += f'KPI 2: Difference = {result.difference}'.
↪ljust(padding)
            # lines[3] += f'Execution time: {execution_times[time_idx] * 1000:.
↪3f}ms'.ljust(padding)
            print(f'Case: "{bench_name}":')
            print(f'KPI 1: Largest bin = {result.largest}')
            print(f'KPI 2: Difference = {result.difference}')
            print(f'Execution time: {execution_times[time_idx] * 1000:.3f}ms')
            print("\n" + ("=" * (padding)) + "\n")
            time_idx += 1
    # print("\n".join(lines))
    # print("\n" + ("=" * (padding * num_cases)) + "\n")

for i, row in enumerate(results):
    row.sort()
    _, ax1 = plt.subplots(1, 1)
    answers, names = zip(*row)
    n = len(answers)
    bar_x = [x for x in range(n)]
    bar1_x = [x-0.2 for x in bar_x]
    bar2_x = [x+0.2 for x in bar_x]
    data1 = [a.largest for a in answers]
    data2 = [a.difference for a in answers]
    ax1.bar(bar1_x, data1, width=0.4)
    _ = plt.ylabel("Largest bin")
    _ = plt.xlabel("Algorithm name")
    ax2 = ax1.twinx()
    _ = plt.ylabel("Difference")
    ax2.bar(bar2_x, data2, width=0.4, color='tab:orange')
    plt.xticks(bar_x, names)
    ax1.set_xticks(ax1.get_xticks(), names, rotation=45, ha='right',
↪rotation_mode='anchor')
    ax1.set_title(get_case_name(all_cases()[0]) + f"_{all_num_bins()[i]}")

```

```
=====  
Case: "N4C3W4_A.BPP_Greedy_Offline_100":  
KPI 1: Largest bin = 329  
KPI 2: Difference  = 11  
Execution time: 4.663ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_Greedy_Offline_200":  
KPI 1: Largest bin = 186  
KPI 2: Difference  = 42  
Execution time: 9.121ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_Greedy_Offline_400":  
KPI 1: Largest bin = 100  
KPI 2: Difference  = 43  
Execution time: 18.478ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_MultiFit_Offline_100":  
KPI 1: Largest bin = 330  
KPI 2: Difference  = 180  
Execution time: 13.367ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_MultiFit_Offline_200":  
KPI 1: Largest bin = 165  
KPI 2: Difference  = 105  
Execution time: 23.535ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_MultiFit_Offline_400":  
KPI 1: Largest bin = 100  
KPI 2: Difference  = 50  
Execution time: 40.584ms  
  
=====
```

```
Case: "N4C3W4_A.BPP_BenMaier_Offline_100":  
KPI 1: Largest bin = 329
```

KPI 2: Difference = 11  
Execution time: 1.774ms

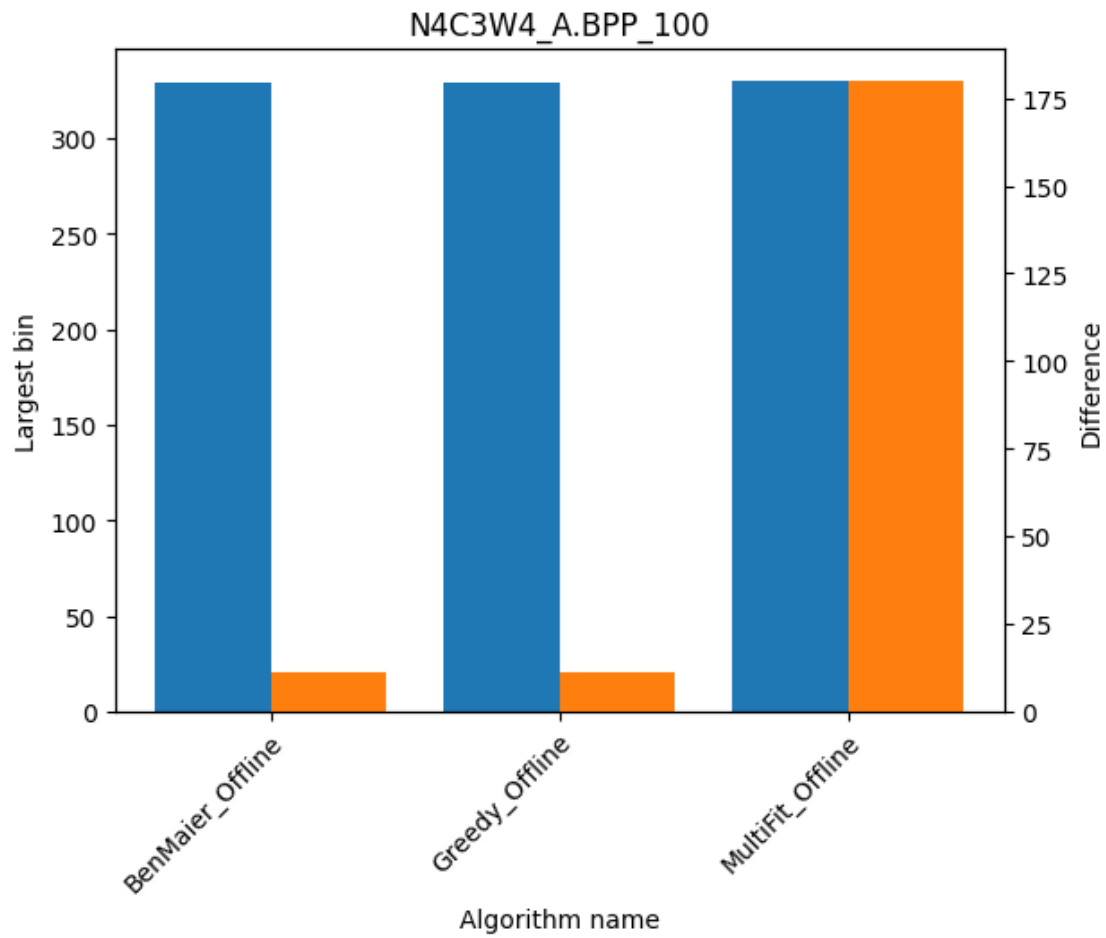
=====

Case: "N4C3W4\_A.BPP\_BenMaier\_Offline\_200":  
KPI 1: Largest bin = 186  
KPI 2: Difference = 42  
Execution time: 3.041ms

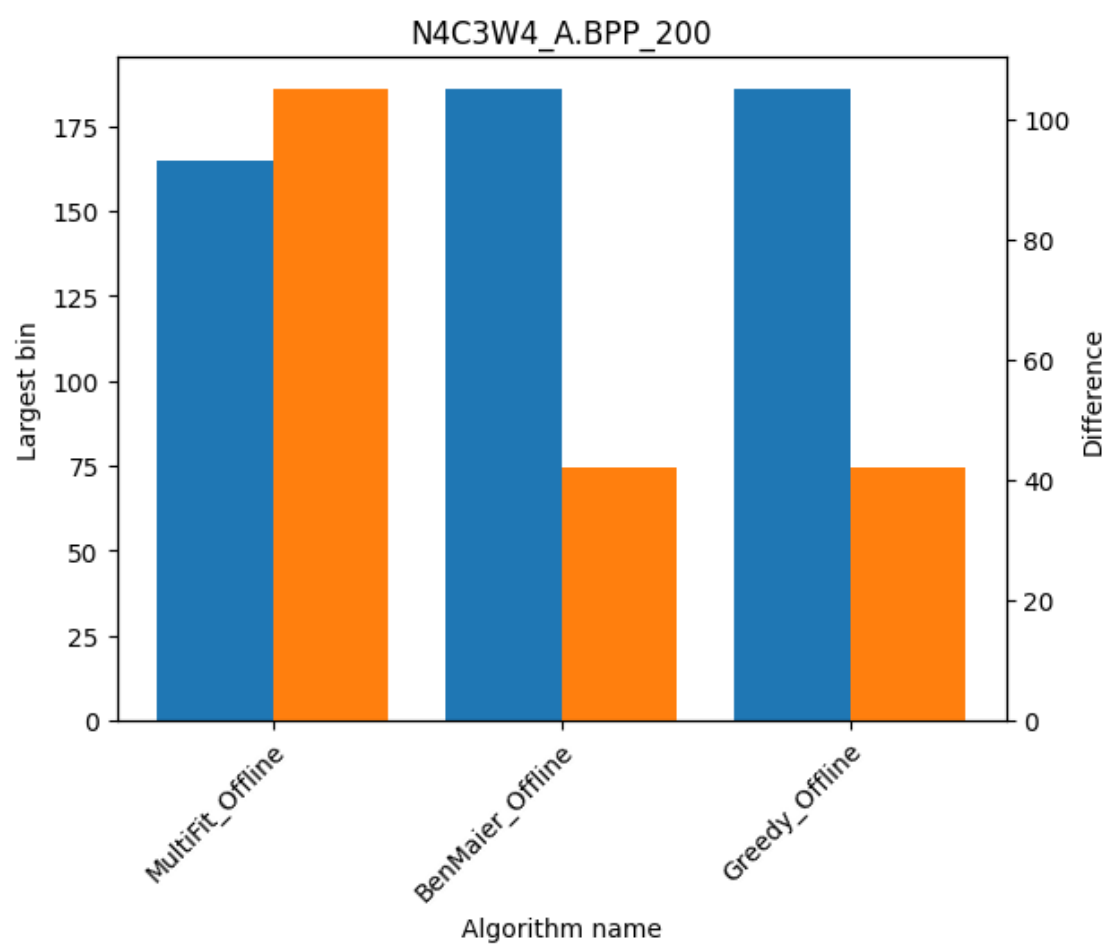
=====

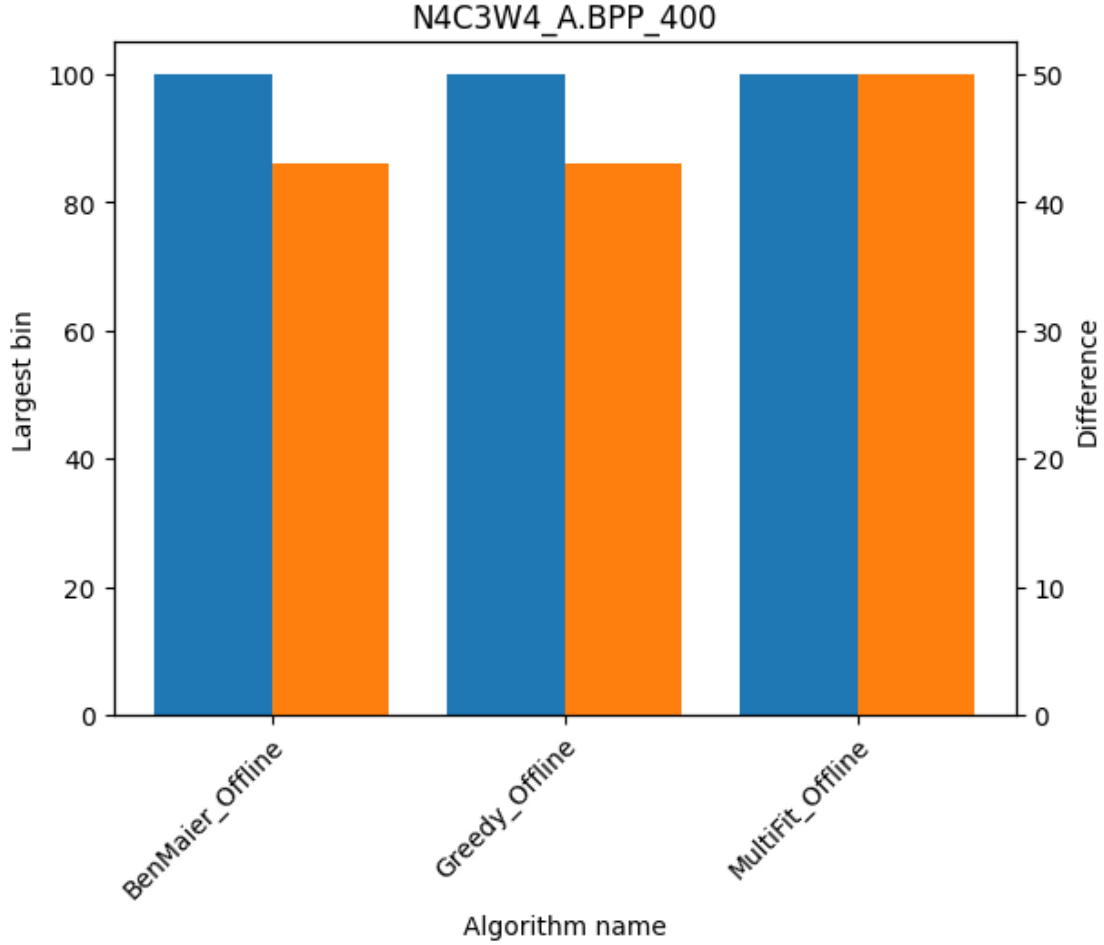
Case: "N4C3W4\_A.BPP\_BenMaier\_Offline\_400":  
KPI 1: Largest bin = 100  
KPI 2: Difference = 43  
Execution time: 6.294ms

=====









**Metrics** During benchmarking, we also computed a few different metrics, relevant to the problem. One is the largest bin weight, and the other is the difference between the largest and smallest bins from each algorithm. When comparing the algorithms, a lower max bin weight shows that the algorithm is able to balance out the weights more evenly, compared to another algorithm. This is because with a lower max, we reduce the maximum load in any bin. Next, the other metric is useful because it quantifies the maximum spread of weights among bins. Different algorithms prioritize this over the other metric, so it is difficult to compare algorithms based on one metric alone. Thus, we use both of these metrics to justify which algorithm performs better.

**Analysis of algorithms** We ran the three algorithms (**Greedy**, **MultiFit**, and the baseline **BenMaier**) on the same large test case with different numbers of bins (100, 200, and 400). A couple notable observations can be made from the results presented in the plots above. Firstly, the baseline algorithm performs identically to the Greedy algorithm in all of our runs. Once again, we can look at the source code for the baseline algorithm and notice that they also use the same greedy algorithm for selecting bins. Interestingly though, the runtime of the baseline algorithm is much lower (about 3x faster than our implementation) in every case.

The multifit algorithm was also much slower in terms of execution time, but produced very different solutions than the other algorithms. For the cases we tested, multifit was on-par with or better than the baseline algorithm in terms of largest single bin. The other metric (difference between largest and smallest single bins) is not something that MultiFit cares about, thus it was always beaten in this regard.

**Comparison** The benchmarking results for the multiway number partitioning problem are analogous to our previous benchmarking results from the classical bin packing problem. In both runs, we see our algorithms perform well on smaller test cases, then begin to struggle when the size of the input is increased. This observation is facilitated by having a consistent measure to quantify a given solution by (number of bins and largest sum, for the classic and multiway problems respectively). Despite the solutions for both problems having entirely different KPIs, we can draw parallels between them.

### Self-reflection (Dennis Fong)

**Backward** We did extensive research on the different algorithms for bin packing. This research ranged from open source code, to research papers on the problem space. We also looked at documentation to produce the graphs in the report. Combining everything together, we were able to create this report containing results of the different algorithms from different inputs, and provide explanations and analysis that reflect our findings.

**Inward** From my view, I believe we had very high standards for our work. We aimed to be very thorough in our explanations and analysis, and tried to produce detailed graphs. I believe we were able to meet our own standards; we clarified the different aspects of our analysis, and created several graphs that depicted lots of information. We were able to articulate what the graphs represented quite well, from my point of view.

**Outward** When other people read this report, I hope for them to notice the attention to detail, the thoroughness, and the beautiful graphs we created. A great deal of effort was put into considering what kind of graph works best, what to graph, and how to implement the ideas. In conjunction with the graphs, we have included explanations regarding what the graph represents as well, in hopes that there are no ambiguity to the decisions made within the contents of the report.

**Forward** Moving forward, the main lesson I will keep is the idea of exploring different solutions for the same problem. As shown with this lab, for the Bin Packing Problem, we were able to implement several different algorithms to solve the same problem, and compare the solutions to find which algorithm provides the best result. This can be applied during professional practice, when there is a problem and a wide variety of solutions that I can try to implement.

### Self-reflection (Luigi Quattrociochi)

**Backward** I went through many iterations of reading wikipedia pages, research papers, and open-source code in order to understand and reproduce the algorithms required for this lab. Through this, I gained a better understanding and was able to explain the differences in performance between the various bin packing algorithms. Despite the fact that this was necessary for me to reason about the lab, it was all very interesting in my opinion and I don't regret the learning I achieved.

**Inward** I had high standards for this project which I unfortunately did not entirely meet. Initially, I had planned to complete all five tasks as well as the bonus task. I wanted to be able to implement an algorithm that would outperform the baseline, however this proved to be more difficult than I had initially imagined. The difference in difficulty between a non-optimal heuristic algorithm and an optimal algorithm is night and day. Again, if I hadn't procrastinated starting putting actual work into the project until the last week, perhaps I'd have been able to accomplish my goal, but I suppose that's something I can look forward to for the next lab project.

**Outward** I'd like for people to notice the effort we put into our explanations and the soundness of the reasoning we came up with for the results we observed. Many times the presentation of the plots and graphs are enough to prove the point, but we went above and beyond in our understanding of why we got the results that we did. My partner and I did a lot of research into bin packing algorithms and I am proud of what came out of that.

**Forward** One of the most important things I realised after finishing this project was that solving the bin packing problem is slightly analogous to solving many real-world problems. Much of the time, there is no single best answer (except for when there is) to any problem I may encounter. What's important is coming up with a solution that works well enough to accomplish the task at hand. Going forward, I plan to take this lesson with me, so that when I encounter difficult problems in my professional career, I can better approach the problem.

```
[5]: # The output of this cell is very long. We put it at the end of the report to
    ↪not subtract from the rest of the content.

# from IPython.display import display, HTML
# display(HTML("""<b>These results are very long. Click <a href="#skip">here</
    ↪a> to skip to the next section.</b>"""))

padding = 34
for case_name, results in case_results.items():
    print(f"{case_name}:")
    print(f"    Oracle: ".ljust(padding), oracle[case_name])
    for algo_name, result in results.items():
        print(f"        {algo_name}: ".ljust(padding), result.num_bins, f"({result.
    ↪num_bins - oracle[case_name]} bins from optimal solution)")
```

```
N1C1W1_A:
    Oracle: 25
    NextFit_Online: 32 (7 bins from optimal solution)
    FirstFit_Online: 26 (1 bins from optimal solution)
    BestFit_Online: 26 (1 bins from optimal solution)
    WorstFit_Online: 28 (3 bins from optimal solution)
    RefinedFirstFit_Online: 30 (5 bins from optimal solution)
    NextFit_Offline: 30 (5 bins from optimal solution)
    FirstFitDecreasing_Offline: 25 (0 bins from optimal solution)
    BestFitDecreasing_Offline: 25 (0 bins from optimal solution)
    WorstFitDecreasing_Offline: 25 (0 bins from optimal solution)
    BenMaier_Offline: 25 (0 bins from optimal solution)
```

N1C1W1\_B:

Oracle:	31
NextFit_Online:	36 (5 bins from optimal solution)
FirstFit_Online:	31 (0 bins from optimal solution)
BestFit_Online:	31 (0 bins from optimal solution)
WorstFit_Online:	33 (2 bins from optimal solution)
RefinedFirstFit_Online:	36 (5 bins from optimal solution)
NextFit_Offline:	35 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N1C1W1\_C:

Oracle:	20
NextFit_Online:	28 (8 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	22 (2 bins from optimal solution)
WorstFit_Online:	25 (5 bins from optimal solution)
RefinedFirstFit_Online:	27 (7 bins from optimal solution)
NextFit_Offline:	26 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BestFitDecreasing_Offline:	21 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BenMaier_Offline:	21 (1 bins from optimal solution)

N1C1W1\_D:

Oracle:	28
NextFit_Online:	35 (7 bins from optimal solution)
FirstFit_Online:	28 (0 bins from optimal solution)
BestFit_Online:	28 (0 bins from optimal solution)
WorstFit_Online:	29 (1 bins from optimal solution)
RefinedFirstFit_Online:	33 (5 bins from optimal solution)
NextFit_Offline:	32 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)

N1C1W1\_E:

Oracle:	26
NextFit_Online:	33 (7 bins from optimal solution)
FirstFit_Online:	28 (2 bins from optimal solution)
BestFit_Online:	27 (1 bins from optimal solution)
WorstFit_Online:	28 (2 bins from optimal solution)
RefinedFirstFit_Online:	31 (5 bins from optimal solution)
NextFit_Offline:	31 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C1W1\_F:

Oracle:	27
NextFit_Online:	35 (8 bins from optimal solution)
FirstFit_Online:	29 (2 bins from optimal solution)
BestFit_Online:	28 (1 bins from optimal solution)
WorstFit_Online:	30 (3 bins from optimal solution)
RefinedFirstFit_Online:	33 (6 bins from optimal solution)
NextFit_Offline:	32 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BestFitDecreasing_Offline:	27 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BenMaier_Offline:	27 (0 bins from optimal solution)

N1C1W1\_G:

Oracle:	25
NextFit_Online:	33 (8 bins from optimal solution)
FirstFit_Online:	26 (1 bins from optimal solution)
BestFit_Online:	26 (1 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	31 (6 bins from optimal solution)
NextFit_Offline:	30 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (1 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C1W1\_H:

Oracle:	31
NextFit_Online:	37 (6 bins from optimal solution)
FirstFit_Online:	31 (0 bins from optimal solution)
BestFit_Online:	31 (0 bins from optimal solution)
WorstFit_Online:	33 (2 bins from optimal solution)
RefinedFirstFit_Online:	36 (5 bins from optimal solution)
NextFit_Offline:	35 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N1C1W1\_I:

Oracle:	25
NextFit_Online:	32 (7 bins from optimal solution)
FirstFit_Online:	26 (1 bins from optimal solution)
BestFit_Online:	26 (1 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	31 (6 bins from optimal solution)
NextFit_Offline:	31 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C1W1\_J:

Oracle:	26
NextFit_Online:	33 (7 bins from optimal solution)
FirstFit_Online:	27 (1 bins from optimal solution)
BestFit_Online:	27 (1 bins from optimal solution)
WorstFit_Online:	28 (2 bins from optimal solution)
RefinedFirstFit_Online:	31 (5 bins from optimal solution)
NextFit_Offline:	32 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C1W1\_K:

Oracle:	26
NextFit_Online:	32 (6 bins from optimal solution)
FirstFit_Online:	27 (1 bins from optimal solution)
BestFit_Online:	26 (0 bins from optimal solution)
WorstFit_Online:	28 (2 bins from optimal solution)
RefinedFirstFit_Online:	32 (6 bins from optimal solution)
NextFit_Offline:	31 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C1W1\_L:

Oracle:	33
NextFit_Online:	39 (6 bins from optimal solution)
FirstFit_Online:	33 (0 bins from optimal solution)
BestFit_Online:	33 (0 bins from optimal solution)
WorstFit_Online:	36 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (5 bins from optimal solution)
NextFit_Offline:	38 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C1W1\_M:

Oracle:	30
NextFit_Online:	36 (6 bins from optimal solution)
FirstFit_Online:	30 (0 bins from optimal solution)
BestFit_Online:	30 (0 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	34 (4 bins from optimal solution)
NextFit_Offline:	34 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C1W1\_N:

Oracle:	25
NextFit_Online:	32 (7 bins from optimal solution)
FirstFit_Online:	27 (2 bins from optimal solution)
BestFit_Online:	26 (1 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	30 (5 bins from optimal solution)
NextFit_Offline:	30 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (1 bins from optimal solution)
BestFitDecreasing_Offline:	26 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (1 bins from optimal solution)
BenMaier_Offline:	26 (1 bins from optimal solution)

N1C1W1\_O:

Oracle:	32
NextFit_Online:	39 (7 bins from optimal solution)
FirstFit_Online:	33 (1 bins from optimal solution)
BestFit_Online:	32 (0 bins from optimal solution)
WorstFit_Online:	35 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (6 bins from optimal solution)
NextFit_Offline:	37 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C1W1\_P:

Oracle:	26
NextFit_Online:	32 (6 bins from optimal solution)
FirstFit_Online:	27 (1 bins from optimal solution)
BestFit_Online:	27 (1 bins from optimal solution)
WorstFit_Online:	29 (3 bins from optimal solution)
RefinedFirstFit_Online:	33 (7 bins from optimal solution)
NextFit_Offline:	32 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C1W1\_Q:

Oracle:	28
NextFit_Online:	35 (7 bins from optimal solution)
FirstFit_Online:	29 (1 bins from optimal solution)
BestFit_Online:	28 (0 bins from optimal solution)
WorstFit_Online:	31 (3 bins from optimal solution)
RefinedFirstFit_Online:	35 (7 bins from optimal solution)
NextFit_Offline:	35 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)



N1C1W1_R:	
Oracle:	25
NextFit_Online:	31 (6 bins from optimal solution)
FirstFit_Online:	26 (1 bins from optimal solution)
BestFit_Online:	26 (1 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	32 (7 bins from optimal solution)
NextFit_Offline:	31 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)
N1C1W1_S:	
Oracle:	28
NextFit_Online:	36 (8 bins from optimal solution)
FirstFit_Online:	29 (1 bins from optimal solution)
BestFit_Online:	29 (1 bins from optimal solution)
WorstFit_Online:	31 (3 bins from optimal solution)
RefinedFirstFit_Online:	34 (6 bins from optimal solution)
NextFit_Offline:	33 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)
N1C1W1_T:	
Oracle:	28
NextFit_Online:	36 (8 bins from optimal solution)
FirstFit_Online:	29 (1 bins from optimal solution)
BestFit_Online:	29 (1 bins from optimal solution)
WorstFit_Online:	32 (4 bins from optimal solution)
RefinedFirstFit_Online:	35 (7 bins from optimal solution)
NextFit_Offline:	34 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)
N1C1W2_A:	
Oracle:	29
NextFit_Online:	36 (7 bins from optimal solution)
FirstFit_Online:	29 (0 bins from optimal solution)
BestFit_Online:	30 (1 bins from optimal solution)
WorstFit_Online:	30 (1 bins from optimal solution)
RefinedFirstFit_Online:	36 (7 bins from optimal solution)
NextFit_Offline:	36 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C1W2\_B:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	36 (6 bins from optimal solution)
NextFit_Offline:	36 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C1W2\_C:

Oracle:	33
NextFit_Online:	40 (7 bins from optimal solution)
FirstFit_Online:	34 (1 bins from optimal solution)
BestFit_Online:	34 (1 bins from optimal solution)
WorstFit_Online:	35 (2 bins from optimal solution)
RefinedFirstFit_Online:	38 (5 bins from optimal solution)
NextFit_Offline:	38 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C1W2\_D:

Oracle:	31
NextFit_Online:	39 (8 bins from optimal solution)
FirstFit_Online:	32 (1 bins from optimal solution)
BestFit_Online:	32 (1 bins from optimal solution)
WorstFit_Online:	34 (3 bins from optimal solution)
RefinedFirstFit_Online:	39 (8 bins from optimal solution)
NextFit_Offline:	37 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N1C1W2\_E:

Oracle:	36
NextFit_Online:	43 (7 bins from optimal solution)
FirstFit_Online:	36 (0 bins from optimal solution)
BestFit_Online:	36 (0 bins from optimal solution)
WorstFit_Online:	37 (1 bins from optimal solution)
RefinedFirstFit_Online:	40 (4 bins from optimal solution)
NextFit_Offline:	40 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N1C1W2\_F:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	35 (5 bins from optimal solution)
NextFit_Offline:	35 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C1W2\_G:

Oracle:	30
NextFit_Online:	37 (7 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	37 (7 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C1W2\_H:

Oracle:	33
NextFit_Online:	41 (8 bins from optimal solution)
FirstFit_Online:	34 (1 bins from optimal solution)
BestFit_Online:	34 (1 bins from optimal solution)
WorstFit_Online:	35 (2 bins from optimal solution)
RefinedFirstFit_Online:	39 (6 bins from optimal solution)
NextFit_Offline:	38 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C1W2\_I:

Oracle:	35
NextFit_Online:	43 (8 bins from optimal solution)
FirstFit_Online:	36 (1 bins from optimal solution)
BestFit_Online:	36 (1 bins from optimal solution)
WorstFit_Online:	36 (1 bins from optimal solution)
RefinedFirstFit_Online:	41 (6 bins from optimal solution)
NextFit_Offline:	40 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C1W2\_J:

Oracle:	34
NextFit_Online:	41 (7 bins from optimal solution)
FirstFit_Online:	34 (0 bins from optimal solution)
BestFit_Online:	34 (0 bins from optimal solution)
WorstFit_Online:	36 (2 bins from optimal solution)
RefinedFirstFit_Online:	40 (6 bins from optimal solution)
NextFit_Offline:	39 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N1C1W2\_K:

Oracle:	35
NextFit_Online:	41 (6 bins from optimal solution)
FirstFit_Online:	35 (0 bins from optimal solution)
BestFit_Online:	35 (0 bins from optimal solution)
WorstFit_Online:	36 (1 bins from optimal solution)
RefinedFirstFit_Online:	39 (4 bins from optimal solution)
NextFit_Offline:	39 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C1W2\_L:

Oracle:	31
NextFit_Online:	40 (9 bins from optimal solution)
FirstFit_Online:	33 (2 bins from optimal solution)
BestFit_Online:	32 (1 bins from optimal solution)
WorstFit_Online:	35 (4 bins from optimal solution)
RefinedFirstFit_Online:	39 (8 bins from optimal solution)
NextFit_Offline:	37 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (1 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N1C1W2\_M:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (8 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C1W2\_N:

Oracle:	33
NextFit_Online:	40 (7 bins from optimal solution)
FirstFit_Online:	34 (1 bins from optimal solution)
BestFit_Online:	33 (0 bins from optimal solution)
WorstFit_Online:	35 (2 bins from optimal solution)
RefinedFirstFit_Online:	40 (7 bins from optimal solution)
NextFit_Offline:	39 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C1W2\_O:

Oracle:	29
NextFit_Online:	37 (8 bins from optimal solution)
FirstFit_Online:	30 (1 bins from optimal solution)
BestFit_Online:	30 (1 bins from optimal solution)
WorstFit_Online:	32 (3 bins from optimal solution)
RefinedFirstFit_Online:	36 (7 bins from optimal solution)
NextFit_Offline:	36 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C1W2\_P:

Oracle:	33
NextFit_Online:	41 (8 bins from optimal solution)
FirstFit_Online:	34 (1 bins from optimal solution)
BestFit_Online:	33 (0 bins from optimal solution)
WorstFit_Online:	35 (2 bins from optimal solution)
RefinedFirstFit_Online:	39 (6 bins from optimal solution)
NextFit_Offline:	39 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C1W2\_Q:

Oracle:	36
NextFit_Online:	43 (7 bins from optimal solution)
FirstFit_Online:	37 (1 bins from optimal solution)
BestFit_Online:	36 (0 bins from optimal solution)
WorstFit_Online:	37 (1 bins from optimal solution)
RefinedFirstFit_Online:	42 (6 bins from optimal solution)
NextFit_Offline:	42 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N1C1W2\_R:

Oracle:	34
NextFit_Online:	42 (8 bins from optimal solution)
FirstFit_Online:	35 (1 bins from optimal solution)
BestFit_Online:	34 (0 bins from optimal solution)
WorstFit_Online:	36 (2 bins from optimal solution)
RefinedFirstFit_Online:	40 (6 bins from optimal solution)
NextFit_Offline:	39 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N1C1W2\_S:

Oracle:	37
NextFit_Online:	43 (6 bins from optimal solution)
FirstFit_Online:	38 (1 bins from optimal solution)
BestFit_Online:	38 (1 bins from optimal solution)
WorstFit_Online:	39 (2 bins from optimal solution)
RefinedFirstFit_Online:	42 (5 bins from optimal solution)
NextFit_Offline:	41 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	37 (0 bins from optimal solution)
BestFitDecreasing_Offline:	37 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	37 (0 bins from optimal solution)
BenMaier_Offline:	37 (0 bins from optimal solution)

N1C1W2\_T:

Oracle:	38
NextFit_Online:	44 (6 bins from optimal solution)
FirstFit_Online:	38 (0 bins from optimal solution)
BestFit_Online:	38 (0 bins from optimal solution)
WorstFit_Online:	38 (0 bins from optimal solution)
RefinedFirstFit_Online:	42 (4 bins from optimal solution)
NextFit_Offline:	41 (3 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C1W4\_A:

Oracle:	35
NextFit_Online:	42 (7 bins from optimal solution)
FirstFit_Online:	35 (0 bins from optimal solution)
BestFit_Online:	35 (0 bins from optimal solution)
WorstFit_Online:	36 (1 bins from optimal solution)
RefinedFirstFit_Online:	41 (6 bins from optimal solution)
NextFit_Offline:	41 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C1W4\_B:

Oracle:	40
NextFit_Online:	45 (5 bins from optimal solution)
FirstFit_Online:	40 (0 bins from optimal solution)
BestFit_Online:	40 (0 bins from optimal solution)
WorstFit_Online:	40 (0 bins from optimal solution)
RefinedFirstFit_Online:	42 (2 bins from optimal solution)
NextFit_Offline:	41 (1 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BestFitDecreasing_Offline:	40 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BenMaier_Offline:	40 (0 bins from optimal solution)

N1C1W4\_C:

Oracle:	36
NextFit_Online:	43 (7 bins from optimal solution)
FirstFit_Online:	36 (0 bins from optimal solution)
BestFit_Online:	36 (0 bins from optimal solution)
WorstFit_Online:	36 (0 bins from optimal solution)
RefinedFirstFit_Online:	43 (7 bins from optimal solution)
NextFit_Offline:	42 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N1C1W4\_D:

Oracle:	38
NextFit_Online:	44 (6 bins from optimal solution)
FirstFit_Online:	38 (0 bins from optimal solution)
BestFit_Online:	38 (0 bins from optimal solution)
WorstFit_Online:	38 (0 bins from optimal solution)
RefinedFirstFit_Online:	44 (6 bins from optimal solution)
NextFit_Offline:	43 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C1W4\_E:

Oracle:	38
NextFit_Online:	45 (7 bins from optimal solution)
FirstFit_Online:	39 (1 bins from optimal solution)
BestFit_Online:	39 (1 bins from optimal solution)
WorstFit_Online:	40 (2 bins from optimal solution)
RefinedFirstFit_Online:	43 (5 bins from optimal solution)
NextFit_Offline:	43 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C1W4\_F:

Oracle:	32
NextFit_Online:	40 (8 bins from optimal solution)
FirstFit_Online:	34 (2 bins from optimal solution)
BestFit_Online:	34 (2 bins from optimal solution)
WorstFit_Online:	34 (2 bins from optimal solution)
RefinedFirstFit_Online:	39 (7 bins from optimal solution)
NextFit_Offline:	38 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C1W4\_G:

Oracle:	37
NextFit_Online:	43 (6 bins from optimal solution)
FirstFit_Online:	38 (1 bins from optimal solution)
BestFit_Online:	38 (1 bins from optimal solution)
WorstFit_Online:	38 (1 bins from optimal solution)
RefinedFirstFit_Online:	42 (5 bins from optimal solution)
NextFit_Offline:	41 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (1 bins from optimal solution)
BestFitDecreasing_Offline:	38 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (1 bins from optimal solution)
BenMaier_Offline:	38 (1 bins from optimal solution)

N1C1W4\_H:

Oracle:	40
NextFit_Online:	46 (6 bins from optimal solution)
FirstFit_Online:	41 (1 bins from optimal solution)
BestFit_Online:	41 (1 bins from optimal solution)
WorstFit_Online:	42 (2 bins from optimal solution)
RefinedFirstFit_Online:	45 (5 bins from optimal solution)
NextFit_Offline:	44 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BestFitDecreasing_Offline:	40 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BenMaier_Offline:	40 (0 bins from optimal solution)

N1C1W4\_I:

Oracle:	35
NextFit_Online:	43 (8 bins from optimal solution)
FirstFit_Online:	36 (1 bins from optimal solution)
BestFit_Online:	36 (1 bins from optimal solution)
WorstFit_Online:	37 (2 bins from optimal solution)
RefinedFirstFit_Online:	42 (7 bins from optimal solution)
NextFit_Offline:	42 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)



N1C1W4\_J:

Oracle:	37
NextFit_Online:	44 (7 bins from optimal solution)
FirstFit_Online:	37 (0 bins from optimal solution)
BestFit_Online:	37 (0 bins from optimal solution)
WorstFit_Online:	38 (1 bins from optimal solution)
RefinedFirstFit_Online:	43 (6 bins from optimal solution)
NextFit_Offline:	42 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	37 (0 bins from optimal solution)
BestFitDecreasing_Offline:	37 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	37 (0 bins from optimal solution)
BenMaier_Offline:	37 (0 bins from optimal solution)

N1C1W4\_K:

Oracle:	41
NextFit_Online:	47 (6 bins from optimal solution)
FirstFit_Online:	42 (1 bins from optimal solution)
BestFit_Online:	42 (1 bins from optimal solution)
WorstFit_Online:	42 (1 bins from optimal solution)
RefinedFirstFit_Online:	46 (5 bins from optimal solution)
NextFit_Offline:	45 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N1C1W4\_L:

Oracle:	35
NextFit_Online:	43 (8 bins from optimal solution)
FirstFit_Online:	36 (1 bins from optimal solution)
BestFit_Online:	35 (0 bins from optimal solution)
WorstFit_Online:	37 (2 bins from optimal solution)
RefinedFirstFit_Online:	41 (6 bins from optimal solution)
NextFit_Offline:	41 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C1W4\_M:

Oracle:	41
NextFit_Online:	46 (5 bins from optimal solution)
FirstFit_Online:	42 (1 bins from optimal solution)
BestFit_Online:	42 (1 bins from optimal solution)
WorstFit_Online:	43 (2 bins from optimal solution)
RefinedFirstFit_Online:	45 (4 bins from optimal solution)
NextFit_Offline:	44 (3 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N1C1W4\_N:

Oracle:	39
NextFit_Online:	45 (6 bins from optimal solution)
FirstFit_Online:	40 (1 bins from optimal solution)
BestFit_Online:	40 (1 bins from optimal solution)
WorstFit_Online:	40 (1 bins from optimal solution)
RefinedFirstFit_Online:	44 (5 bins from optimal solution)
NextFit_Offline:	43 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	39 (0 bins from optimal solution)
BestFitDecreasing_Offline:	39 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	39 (0 bins from optimal solution)
BenMaier_Offline:	39 (0 bins from optimal solution)

N1C1W4\_O:

Oracle:	34
NextFit_Online:	41 (7 bins from optimal solution)
FirstFit_Online:	34 (0 bins from optimal solution)
BestFit_Online:	34 (0 bins from optimal solution)
WorstFit_Online:	36 (2 bins from optimal solution)
RefinedFirstFit_Online:	41 (7 bins from optimal solution)
NextFit_Offline:	40 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N1C1W4\_P:

Oracle:	38
NextFit_Online:	43 (5 bins from optimal solution)
FirstFit_Online:	39 (1 bins from optimal solution)
BestFit_Online:	38 (0 bins from optimal solution)
WorstFit_Online:	39 (1 bins from optimal solution)
RefinedFirstFit_Online:	43 (5 bins from optimal solution)
NextFit_Offline:	43 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C1W4\_Q:

Oracle:	34
NextFit_Online:	41 (7 bins from optimal solution)
FirstFit_Online:	34 (0 bins from optimal solution)
BestFit_Online:	34 (0 bins from optimal solution)
WorstFit_Online:	36 (2 bins from optimal solution)
RefinedFirstFit_Online:	40 (6 bins from optimal solution)
NextFit_Offline:	40 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N1C1W4\_R:

Oracle:	38
NextFit_Online:	44 (6 bins from optimal solution)
FirstFit_Online:	39 (1 bins from optimal solution)
BestFit_Online:	38 (0 bins from optimal solution)
WorstFit_Online:	39 (1 bins from optimal solution)
RefinedFirstFit_Online:	43 (5 bins from optimal solution)
NextFit_Offline:	42 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C1W4\_S:

Oracle:	36
NextFit_Online:	43 (7 bins from optimal solution)
FirstFit_Online:	36 (0 bins from optimal solution)
BestFit_Online:	36 (0 bins from optimal solution)
WorstFit_Online:	36 (0 bins from optimal solution)
RefinedFirstFit_Online:	40 (4 bins from optimal solution)
NextFit_Offline:	40 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N1C1W4\_T:

Oracle:	42
NextFit_Online:	47 (5 bins from optimal solution)
FirstFit_Online:	42 (0 bins from optimal solution)
BestFit_Online:	42 (0 bins from optimal solution)
WorstFit_Online:	42 (0 bins from optimal solution)
RefinedFirstFit_Online:	45 (3 bins from optimal solution)
NextFit_Offline:	45 (3 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BestFitDecreasing_Offline:	42 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BenMaier_Offline:	42 (0 bins from optimal solution)

N1C2W1\_A:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	23 (2 bins from optimal solution)
BestFit_Online:	22 (1 bins from optimal solution)
WorstFit_Online:	24 (3 bins from optimal solution)
RefinedFirstFit_Online:	28 (7 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C2W1\_B:

Oracle:	26
NextFit_Online:	31 (5 bins from optimal solution)
FirstFit_Online:	26 (0 bins from optimal solution)
BestFit_Online:	26 (0 bins from optimal solution)
WorstFit_Online:	28 (2 bins from optimal solution)
RefinedFirstFit_Online:	32 (6 bins from optimal solution)
NextFit_Offline:	31 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C2W1\_C:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	25 (2 bins from optimal solution)
BestFit_Online:	25 (2 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	29 (6 bins from optimal solution)
NextFit_Offline:	29 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C2W1\_D:

Oracle:	21
NextFit_Online:	28 (7 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	29 (8 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C2W1\_E:

Oracle:	17
NextFit_Online:	20 (3 bins from optimal solution)
FirstFit_Online:	19 (2 bins from optimal solution)
BestFit_Online:	19 (2 bins from optimal solution)
WorstFit_Online:	20 (3 bins from optimal solution)
RefinedFirstFit_Online:	23 (6 bins from optimal solution)
NextFit_Offline:	23 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BestFitDecreasing_Offline:	17 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BenMaier_Offline:	17 (0 bins from optimal solution)

N1C2W1\_F:

Oracle:	22
NextFit_Online:	29 (7 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	24 (2 bins from optimal solution)
WorstFit_Online:	26 (4 bins from optimal solution)
RefinedFirstFit_Online:	28 (6 bins from optimal solution)
NextFit_Offline:	28 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C2W1\_G:

Oracle:	21
NextFit_Online:	29 (8 bins from optimal solution)
FirstFit_Online:	23 (2 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	24 (3 bins from optimal solution)
RefinedFirstFit_Online:	26 (5 bins from optimal solution)
NextFit_Offline:	26 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C2W1\_H:

Oracle:	23
NextFit_Online:	31 (8 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (8 bins from optimal solution)
NextFit_Offline:	30 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C2W1\_I:

Oracle:	27
NextFit_Online:	35 (8 bins from optimal solution)
FirstFit_Online:	28 (1 bins from optimal solution)
BestFit_Online:	28 (1 bins from optimal solution)
WorstFit_Online:	30 (3 bins from optimal solution)
RefinedFirstFit_Online:	35 (8 bins from optimal solution)
NextFit_Offline:	35 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BestFitDecreasing_Offline:	27 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BenMaier_Offline:	27 (0 bins from optimal solution)

N1C2W1\_J:

Oracle:	27
NextFit_Online:	34 (7 bins from optimal solution)
FirstFit_Online:	29 (2 bins from optimal solution)
BestFit_Online:	28 (1 bins from optimal solution)
WorstFit_Online:	30 (3 bins from optimal solution)
RefinedFirstFit_Online:	34 (7 bins from optimal solution)
NextFit_Offline:	34 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BestFitDecreasing_Offline:	27 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BenMaier_Offline:	27 (0 bins from optimal solution)

N1C2W1\_K:

Oracle:	24
NextFit_Online:	31 (7 bins from optimal solution)
FirstFit_Online:	26 (2 bins from optimal solution)
BestFit_Online:	26 (2 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (7 bins from optimal solution)
NextFit_Offline:	32 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C2W1\_L:

Oracle:	25
NextFit_Online:	32 (7 bins from optimal solution)
FirstFit_Online:	27 (2 bins from optimal solution)
BestFit_Online:	26 (1 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	32 (7 bins from optimal solution)
NextFit_Offline:	32 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C2W1\_M:

Oracle:	26
NextFit_Online:	32 (6 bins from optimal solution)
FirstFit_Online:	27 (1 bins from optimal solution)
BestFit_Online:	26 (0 bins from optimal solution)
WorstFit_Online:	30 (4 bins from optimal solution)
RefinedFirstFit_Online:	33 (7 bins from optimal solution)
NextFit_Offline:	33 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C2W1_N:	
Oracle:	21
NextFit_Online:	28 (7 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	28 (7 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)
N1C2W1_O:	
Oracle:	15
NextFit_Online:	19 (4 bins from optimal solution)
FirstFit_Online:	16 (1 bins from optimal solution)
BestFit_Online:	16 (1 bins from optimal solution)
WorstFit_Online:	17 (2 bins from optimal solution)
RefinedFirstFit_Online:	18 (3 bins from optimal solution)
NextFit_Offline:	19 (4 bins from optimal solution)
FirstFitDecreasing_Offline:	15 (0 bins from optimal solution)
BestFitDecreasing_Offline:	15 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	15 (0 bins from optimal solution)
BenMaier_Offline:	15 (0 bins from optimal solution)
N1C2W1_P:	
Oracle:	21
NextFit_Online:	28 (7 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	28 (7 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)
N1C2W1_Q:	
Oracle:	24
NextFit_Online:	28 (4 bins from optimal solution)
FirstFit_Online:	25 (1 bins from optimal solution)
BestFit_Online:	25 (1 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	30 (6 bins from optimal solution)
NextFit_Offline:	29 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C2W1\_R:

Oracle:	23
NextFit_Online:	28 (5 bins from optimal solution)
FirstFit_Online:	24 (1 bins from optimal solution)
BestFit_Online:	24 (1 bins from optimal solution)
WorstFit_Online:	26 (3 bins from optimal solution)
RefinedFirstFit_Online:	30 (7 bins from optimal solution)
NextFit_Offline:	29 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C2W1\_S:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	24 (2 bins from optimal solution)
WorstFit_Online:	27 (5 bins from optimal solution)
RefinedFirstFit_Online:	30 (8 bins from optimal solution)
NextFit_Offline:	29 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C2W1\_T:

Oracle:	22
NextFit_Online:	29 (7 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	28 (6 bins from optimal solution)
RefinedFirstFit_Online:	31 (9 bins from optimal solution)
NextFit_Offline:	31 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C2W2\_A:

Oracle:	24
NextFit_Online:	32 (8 bins from optimal solution)
FirstFit_Online:	27 (3 bins from optimal solution)
BestFit_Online:	27 (3 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (8 bins from optimal solution)
NextFit_Offline:	32 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (1 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)



N1C2W2\_B:

Oracle:	27
NextFit_Online:	37 (10 bins from optimal solution)
FirstFit_Online:	29 (2 bins from optimal solution)
BestFit_Online:	30 (3 bins from optimal solution)
WorstFit_Online:	31 (4 bins from optimal solution)
RefinedFirstFit_Online:	36 (9 bins from optimal solution)
NextFit_Offline:	36 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BestFitDecreasing_Offline:	27 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	27 (0 bins from optimal solution)
BenMaier_Offline:	27 (0 bins from optimal solution)

N1C2W2\_C:

Oracle:	29
NextFit_Online:	39 (10 bins from optimal solution)
FirstFit_Online:	30 (1 bins from optimal solution)
BestFit_Online:	30 (1 bins from optimal solution)
WorstFit_Online:	32 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (9 bins from optimal solution)
NextFit_Offline:	37 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C2W2\_D:

Oracle:	24
NextFit_Online:	32 (8 bins from optimal solution)
FirstFit_Online:	27 (3 bins from optimal solution)
BestFit_Online:	27 (3 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (8 bins from optimal solution)
NextFit_Offline:	32 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C2W2\_E:

Oracle:	33
NextFit_Online:	40 (7 bins from optimal solution)
FirstFit_Online:	33 (0 bins from optimal solution)
BestFit_Online:	33 (0 bins from optimal solution)
WorstFit_Online:	36 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (5 bins from optimal solution)
NextFit_Offline:	38 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C2W2\_F:

Oracle:	26
NextFit_Online:	33 (7 bins from optimal solution)
FirstFit_Online:	28 (2 bins from optimal solution)
BestFit_Online:	28 (2 bins from optimal solution)
WorstFit_Online:	29 (3 bins from optimal solution)
RefinedFirstFit_Online:	34 (8 bins from optimal solution)
NextFit_Offline:	33 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C2W2\_G:

Oracle:	29
NextFit_Online:	38 (9 bins from optimal solution)
FirstFit_Online:	31 (2 bins from optimal solution)
BestFit_Online:	30 (1 bins from optimal solution)
WorstFit_Online:	33 (4 bins from optimal solution)
RefinedFirstFit_Online:	36 (7 bins from optimal solution)
NextFit_Offline:	36 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C2W2\_H:

Oracle:	23
NextFit_Online:	32 (9 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	27 (4 bins from optimal solution)
WorstFit_Online:	28 (5 bins from optimal solution)
RefinedFirstFit_Online:	31 (8 bins from optimal solution)
NextFit_Offline:	31 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (1 bins from optimal solution)
BestFitDecreasing_Offline:	24 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (1 bins from optimal solution)
BenMaier_Offline:	24 (1 bins from optimal solution)

N1C2W2\_I:

Oracle:	25
NextFit_Online:	35 (10 bins from optimal solution)
FirstFit_Online:	28 (3 bins from optimal solution)
BestFit_Online:	28 (3 bins from optimal solution)
WorstFit_Online:	29 (4 bins from optimal solution)
RefinedFirstFit_Online:	35 (10 bins from optimal solution)
NextFit_Offline:	34 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C2W2\_J:

Oracle:	25
NextFit_Online:	33 (8 bins from optimal solution)
FirstFit_Online:	27 (2 bins from optimal solution)
BestFit_Online:	27 (2 bins from optimal solution)
WorstFit_Online:	28 (3 bins from optimal solution)
RefinedFirstFit_Online:	32 (7 bins from optimal solution)
NextFit_Offline:	32 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C2W2\_K:

Oracle:	29
NextFit_Online:	36 (7 bins from optimal solution)
FirstFit_Online:	30 (1 bins from optimal solution)
BestFit_Online:	29 (0 bins from optimal solution)
WorstFit_Online:	31 (2 bins from optimal solution)
RefinedFirstFit_Online:	37 (8 bins from optimal solution)
NextFit_Offline:	38 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C2W2\_L:

Oracle:	30
NextFit_Online:	36 (6 bins from optimal solution)
FirstFit_Online:	30 (0 bins from optimal solution)
BestFit_Online:	30 (0 bins from optimal solution)
WorstFit_Online:	31 (1 bins from optimal solution)
RefinedFirstFit_Online:	37 (7 bins from optimal solution)
NextFit_Offline:	36 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W2\_M:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	36 (6 bins from optimal solution)
NextFit_Offline:	36 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W2\_N:

Oracle:	26
NextFit_Online:	36 (10 bins from optimal solution)
FirstFit_Online:	29 (3 bins from optimal solution)
BestFit_Online:	29 (3 bins from optimal solution)
WorstFit_Online:	30 (4 bins from optimal solution)
RefinedFirstFit_Online:	35 (9 bins from optimal solution)
NextFit_Offline:	35 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C2W2\_O:

Oracle:	29
NextFit_Online:	37 (8 bins from optimal solution)
FirstFit_Online:	30 (1 bins from optimal solution)
BestFit_Online:	29 (0 bins from optimal solution)
WorstFit_Online:	31 (2 bins from optimal solution)
RefinedFirstFit_Online:	37 (8 bins from optimal solution)
NextFit_Offline:	37 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C2W2\_P:

Oracle:	23
NextFit_Online:	32 (9 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	26 (3 bins from optimal solution)
RefinedFirstFit_Online:	31 (8 bins from optimal solution)
NextFit_Offline:	31 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C2W2\_Q:

Oracle:	30
NextFit_Online:	37 (7 bins from optimal solution)
FirstFit_Online:	31 (1 bins from optimal solution)
BestFit_Online:	30 (0 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (8 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W2\_R:

Oracle:	25
NextFit_Online:	33 (8 bins from optimal solution)
FirstFit_Online:	28 (3 bins from optimal solution)
BestFit_Online:	27 (2 bins from optimal solution)
WorstFit_Online:	29 (4 bins from optimal solution)
RefinedFirstFit_Online:	34 (9 bins from optimal solution)
NextFit_Offline:	34 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C2W2\_S:

Oracle:	24
NextFit_Online:	32 (8 bins from optimal solution)
FirstFit_Online:	27 (3 bins from optimal solution)
BestFit_Online:	27 (3 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	33 (9 bins from optimal solution)
NextFit_Offline:	32 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C2W2\_T:

Oracle:	26
NextFit_Online:	34 (8 bins from optimal solution)
FirstFit_Online:	28 (2 bins from optimal solution)
BestFit_Online:	28 (2 bins from optimal solution)
WorstFit_Online:	29 (3 bins from optimal solution)
RefinedFirstFit_Online:	36 (10 bins from optimal solution)
NextFit_Offline:	35 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BestFitDecreasing_Offline:	26 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	26 (0 bins from optimal solution)
BenMaier_Offline:	26 (0 bins from optimal solution)

N1C2W4\_A:

Oracle:	29
NextFit_Online:	37 (8 bins from optimal solution)
FirstFit_Online:	31 (2 bins from optimal solution)
BestFit_Online:	30 (1 bins from optimal solution)
WorstFit_Online:	32 (3 bins from optimal solution)
RefinedFirstFit_Online:	35 (6 bins from optimal solution)
NextFit_Offline:	35 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C2W4\_B:

Oracle:	32
NextFit_Online:	40 (8 bins from optimal solution)
FirstFit_Online:	33 (1 bins from optimal solution)
BestFit_Online:	32 (0 bins from optimal solution)
WorstFit_Online:	34 (2 bins from optimal solution)
RefinedFirstFit_Online:	38 (6 bins from optimal solution)
NextFit_Offline:	38 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C2W4\_C:

Oracle:	30
NextFit_Online:	39 (9 bins from optimal solution)
FirstFit_Online:	31 (1 bins from optimal solution)
BestFit_Online:	31 (1 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	37 (7 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_D:

Oracle:	28
NextFit_Online:	36 (8 bins from optimal solution)
FirstFit_Online:	30 (2 bins from optimal solution)
BestFit_Online:	30 (2 bins from optimal solution)
WorstFit_Online:	30 (2 bins from optimal solution)
RefinedFirstFit_Online:	36 (8 bins from optimal solution)
NextFit_Offline:	35 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)

N1C2W4\_E:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (8 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_F:

Oracle:	32
NextFit_Online:	39 (7 bins from optimal solution)
FirstFit_Online:	32 (0 bins from optimal solution)
BestFit_Online:	32 (0 bins from optimal solution)
WorstFit_Online:	35 (3 bins from optimal solution)
RefinedFirstFit_Online:	40 (8 bins from optimal solution)
NextFit_Offline:	39 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C2W4\_G:

Oracle:	30
NextFit_Online:	38 (8 bins from optimal solution)
FirstFit_Online:	31 (1 bins from optimal solution)
BestFit_Online:	31 (1 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	37 (7 bins from optimal solution)
NextFit_Offline:	37 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_H:

Oracle:	30
NextFit_Online:	39 (9 bins from optimal solution)
FirstFit_Online:	32 (2 bins from optimal solution)
BestFit_Online:	32 (2 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	38 (8 bins from optimal solution)
NextFit_Offline:	38 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_I:

Oracle:	35
NextFit_Online:	41 (6 bins from optimal solution)
FirstFit_Online:	35 (0 bins from optimal solution)
BestFit_Online:	35 (0 bins from optimal solution)
WorstFit_Online:	36 (1 bins from optimal solution)
RefinedFirstFit_Online:	40 (5 bins from optimal solution)
NextFit_Offline:	40 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C2W4\_J:

Oracle:	30
NextFit_Online:	39 (9 bins from optimal solution)
FirstFit_Online:	31 (1 bins from optimal solution)
BestFit_Online:	30 (0 bins from optimal solution)
WorstFit_Online:	33 (3 bins from optimal solution)
RefinedFirstFit_Online:	39 (9 bins from optimal solution)
NextFit_Offline:	39 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_K:

Oracle:	32
NextFit_Online:	40 (8 bins from optimal solution)
FirstFit_Online:	33 (1 bins from optimal solution)
BestFit_Online:	32 (0 bins from optimal solution)
WorstFit_Online:	34 (2 bins from optimal solution)
RefinedFirstFit_Online:	39 (7 bins from optimal solution)
NextFit_Offline:	39 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C2W4\_L:

Oracle:	31
NextFit_Online:	39 (8 bins from optimal solution)
FirstFit_Online:	32 (1 bins from optimal solution)
BestFit_Online:	32 (1 bins from optimal solution)
WorstFit_Online:	33 (2 bins from optimal solution)
RefinedFirstFit_Online:	38 (7 bins from optimal solution)
NextFit_Offline:	38 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N1C2W4\_M:

Oracle:	31
NextFit_Online:	39 (8 bins from optimal solution)
FirstFit_Online:	33 (2 bins from optimal solution)
BestFit_Online:	32 (1 bins from optimal solution)
WorstFit_Online:	33 (2 bins from optimal solution)
RefinedFirstFit_Online:	38 (7 bins from optimal solution)
NextFit_Offline:	38 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)



N1C2W4\_N:

Oracle:	32
NextFit_Online:	40 (8 bins from optimal solution)
FirstFit_Online:	34 (2 bins from optimal solution)
BestFit_Online:	33 (1 bins from optimal solution)
WorstFit_Online:	34 (2 bins from optimal solution)
RefinedFirstFit_Online:	38 (6 bins from optimal solution)
NextFit_Offline:	38 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N1C2W4\_O:

Oracle:	30
NextFit_Online:	39 (9 bins from optimal solution)
FirstFit_Online:	31 (1 bins from optimal solution)
BestFit_Online:	31 (1 bins from optimal solution)
WorstFit_Online:	32 (2 bins from optimal solution)
RefinedFirstFit_Online:	39 (9 bins from optimal solution)
NextFit_Offline:	38 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BestFitDecreasing_Offline:	30 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	30 (0 bins from optimal solution)
BenMaier_Offline:	30 (0 bins from optimal solution)

N1C2W4\_P:

Oracle:	28
NextFit_Online:	36 (8 bins from optimal solution)
FirstFit_Online:	30 (2 bins from optimal solution)
BestFit_Online:	30 (2 bins from optimal solution)
WorstFit_Online:	30 (2 bins from optimal solution)
RefinedFirstFit_Online:	35 (7 bins from optimal solution)
NextFit_Offline:	34 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BestFitDecreasing_Offline:	28 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	28 (0 bins from optimal solution)
BenMaier_Offline:	28 (0 bins from optimal solution)

N1C2W4\_Q:

Oracle:	33
NextFit_Online:	40 (7 bins from optimal solution)
FirstFit_Online:	33 (0 bins from optimal solution)
BestFit_Online:	33 (0 bins from optimal solution)
WorstFit_Online:	35 (2 bins from optimal solution)
RefinedFirstFit_Online:	41 (8 bins from optimal solution)
NextFit_Offline:	40 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N1C2W4\_R:

Oracle:	35
NextFit_Online:	42 (7 bins from optimal solution)
FirstFit_Online:	35 (0 bins from optimal solution)
BestFit_Online:	35 (0 bins from optimal solution)
WorstFit_Online:	36 (1 bins from optimal solution)
RefinedFirstFit_Online:	42 (7 bins from optimal solution)
NextFit_Offline:	41 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N1C2W4\_S:

Oracle:	38
NextFit_Online:	43 (5 bins from optimal solution)
FirstFit_Online:	39 (1 bins from optimal solution)
BestFit_Online:	39 (1 bins from optimal solution)
WorstFit_Online:	39 (1 bins from optimal solution)
RefinedFirstFit_Online:	44 (6 bins from optimal solution)
NextFit_Offline:	43 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N1C2W4\_T:

Oracle:	29
NextFit_Online:	36 (7 bins from optimal solution)
FirstFit_Online:	29 (0 bins from optimal solution)
BestFit_Online:	29 (0 bins from optimal solution)
WorstFit_Online:	30 (1 bins from optimal solution)
RefinedFirstFit_Online:	35 (6 bins from optimal solution)
NextFit_Offline:	35 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BestFitDecreasing_Offline:	29 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	29 (0 bins from optimal solution)
BenMaier_Offline:	29 (0 bins from optimal solution)

N1C3W1\_A:

Oracle:	16
NextFit_Online:	19 (3 bins from optimal solution)
FirstFit_Online:	17 (1 bins from optimal solution)
BestFit_Online:	17 (1 bins from optimal solution)
WorstFit_Online:	18 (2 bins from optimal solution)
RefinedFirstFit_Online:	23 (7 bins from optimal solution)
NextFit_Offline:	23 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (1 bins from optimal solution)
BestFitDecreasing_Offline:	17 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (1 bins from optimal solution)
BenMaier_Offline:	17 (1 bins from optimal solution)

N1C3W1\_B:

Oracle:	16
NextFit_Online:	20 (4 bins from optimal solution)
FirstFit_Online:	17 (1 bins from optimal solution)
BestFit_Online:	17 (1 bins from optimal solution)
WorstFit_Online:	19 (3 bins from optimal solution)
RefinedFirstFit_Online:	22 (6 bins from optimal solution)
NextFit_Offline:	22 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BestFitDecreasing_Offline:	16 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BenMaier_Offline:	16 (0 bins from optimal solution)

N1C3W1\_C:

Oracle:	17
NextFit_Online:	21 (4 bins from optimal solution)
FirstFit_Online:	20 (3 bins from optimal solution)
BestFit_Online:	19 (2 bins from optimal solution)
WorstFit_Online:	21 (4 bins from optimal solution)
RefinedFirstFit_Online:	24 (7 bins from optimal solution)
NextFit_Offline:	24 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	18 (1 bins from optimal solution)
BestFitDecreasing_Offline:	18 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	18 (1 bins from optimal solution)
BenMaier_Offline:	18 (1 bins from optimal solution)

N1C3W1\_D:

Oracle:	19
NextFit_Online:	24 (5 bins from optimal solution)
FirstFit_Online:	21 (2 bins from optimal solution)
BestFit_Online:	21 (2 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	27 (8 bins from optimal solution)
NextFit_Offline:	26 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BestFitDecreasing_Offline:	19 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BenMaier_Offline:	19 (0 bins from optimal solution)

N1C3W1\_E:

Oracle:	16
NextFit_Online:	19 (3 bins from optimal solution)
FirstFit_Online:	17 (1 bins from optimal solution)
BestFit_Online:	17 (1 bins from optimal solution)
WorstFit_Online:	18 (2 bins from optimal solution)
RefinedFirstFit_Online:	22 (6 bins from optimal solution)
NextFit_Offline:	22 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BestFitDecreasing_Offline:	16 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BenMaier_Offline:	16 (0 bins from optimal solution)

N1C3W1\_F:

Oracle:	20
NextFit_Online:	26 (6 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	24 (4 bins from optimal solution)
RefinedFirstFit_Online:	30 (10 bins from optimal solution)
NextFit_Offline:	29 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	20 (0 bins from optimal solution)
BestFitDecreasing_Offline:	20 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (0 bins from optimal solution)
BenMaier_Offline:	20 (0 bins from optimal solution)

N1C3W1\_G:

Oracle:	15
NextFit_Online:	19 (4 bins from optimal solution)
FirstFit_Online:	16 (1 bins from optimal solution)
BestFit_Online:	16 (1 bins from optimal solution)
WorstFit_Online:	17 (2 bins from optimal solution)
RefinedFirstFit_Online:	21 (6 bins from optimal solution)
NextFit_Offline:	20 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	15 (0 bins from optimal solution)
BestFitDecreasing_Offline:	15 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	16 (1 bins from optimal solution)
BenMaier_Offline:	15 (0 bins from optimal solution)

N1C3W1\_H:

Oracle:	19
NextFit_Online:	24 (5 bins from optimal solution)
FirstFit_Online:	22 (3 bins from optimal solution)
BestFit_Online:	22 (3 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	27 (8 bins from optimal solution)
NextFit_Offline:	27 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BestFitDecreasing_Offline:	19 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BenMaier_Offline:	19 (0 bins from optimal solution)

N1C3W1\_I:

Oracle:	17
NextFit_Online:	20 (3 bins from optimal solution)
FirstFit_Online:	18 (1 bins from optimal solution)
BestFit_Online:	17 (0 bins from optimal solution)
WorstFit_Online:	19 (2 bins from optimal solution)
RefinedFirstFit_Online:	23 (6 bins from optimal solution)
NextFit_Offline:	22 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BestFitDecreasing_Offline:	17 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BenMaier_Offline:	17 (0 bins from optimal solution)

N1C3W1\_J:

Oracle:	16
NextFit_Online:	20 (4 bins from optimal solution)
FirstFit_Online:	19 (3 bins from optimal solution)
BestFit_Online:	18 (2 bins from optimal solution)
WorstFit_Online:	20 (4 bins from optimal solution)
RefinedFirstFit_Online:	22 (6 bins from optimal solution)
NextFit_Offline:	22 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BestFitDecreasing_Offline:	16 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BenMaier_Offline:	16 (0 bins from optimal solution)

N1C3W1\_K:

Oracle:	17
NextFit_Online:	20 (3 bins from optimal solution)
FirstFit_Online:	18 (1 bins from optimal solution)
BestFit_Online:	18 (1 bins from optimal solution)
WorstFit_Online:	19 (2 bins from optimal solution)
RefinedFirstFit_Online:	23 (6 bins from optimal solution)
NextFit_Offline:	22 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BestFitDecreasing_Offline:	17 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BenMaier_Offline:	17 (0 bins from optimal solution)

N1C3W1\_L:

Oracle:	17
NextFit_Online:	20 (3 bins from optimal solution)
FirstFit_Online:	19 (2 bins from optimal solution)
BestFit_Online:	18 (1 bins from optimal solution)
WorstFit_Online:	20 (3 bins from optimal solution)
RefinedFirstFit_Online:	23 (6 bins from optimal solution)
NextFit_Offline:	24 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BestFitDecreasing_Offline:	17 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BenMaier_Offline:	17 (0 bins from optimal solution)

N1C3W1\_M:

Oracle:	17
NextFit_Online:	21 (4 bins from optimal solution)
FirstFit_Online:	20 (3 bins from optimal solution)
BestFit_Online:	19 (2 bins from optimal solution)
WorstFit_Online:	21 (4 bins from optimal solution)
RefinedFirstFit_Online:	24 (7 bins from optimal solution)
NextFit_Offline:	23 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BestFitDecreasing_Offline:	17 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (0 bins from optimal solution)
BenMaier_Offline:	17 (0 bins from optimal solution)

N1C3W1\_N:

Oracle:	20
NextFit_Online:	25 (5 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	23 (3 bins from optimal solution)
RefinedFirstFit_Online:	29 (9 bins from optimal solution)
NextFit_Offline:	28 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BestFitDecreasing_Offline:	21 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BenMaier_Offline:	21 (1 bins from optimal solution)

N1C3W1\_O:

Oracle:	16
NextFit_Online:	20 (4 bins from optimal solution)
FirstFit_Online:	18 (2 bins from optimal solution)
BestFit_Online:	18 (2 bins from optimal solution)
WorstFit_Online:	19 (3 bins from optimal solution)
RefinedFirstFit_Online:	23 (7 bins from optimal solution)
NextFit_Offline:	23 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BestFitDecreasing_Offline:	16 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	17 (1 bins from optimal solution)
BenMaier_Offline:	16 (0 bins from optimal solution)

N1C3W1\_P:

Oracle:	19
NextFit_Online:	24 (5 bins from optimal solution)
FirstFit_Online:	21 (2 bins from optimal solution)
BestFit_Online:	21 (2 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	26 (7 bins from optimal solution)
NextFit_Offline:	26 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BestFitDecreasing_Offline:	19 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BenMaier_Offline:	19 (0 bins from optimal solution)

N1C3W1\_Q:

Oracle:	20
NextFit_Online:	27 (7 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	25 (5 bins from optimal solution)
RefinedFirstFit_Online:	29 (9 bins from optimal solution)
NextFit_Offline:	29 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	20 (0 bins from optimal solution)
BestFitDecreasing_Offline:	20 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BenMaier_Offline:	20 (0 bins from optimal solution)

N1C3W1\_R:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	29 (8 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C3W1\_S:

Oracle:	16
NextFit_Online:	19 (3 bins from optimal solution)
FirstFit_Online:	17 (1 bins from optimal solution)
BestFit_Online:	16 (0 bins from optimal solution)
WorstFit_Online:	18 (2 bins from optimal solution)
RefinedFirstFit_Online:	21 (5 bins from optimal solution)
NextFit_Offline:	21 (5 bins from optimal solution)
FirstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BestFitDecreasing_Offline:	16 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	16 (0 bins from optimal solution)
BenMaier_Offline:	16 (0 bins from optimal solution)

N1C3W1\_T:

Oracle:	18
NextFit_Online:	24 (6 bins from optimal solution)
FirstFit_Online:	20 (2 bins from optimal solution)
BestFit_Online:	20 (2 bins from optimal solution)
WorstFit_Online:	21 (3 bins from optimal solution)
RefinedFirstFit_Online:	24 (6 bins from optimal solution)
NextFit_Offline:	25 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	18 (0 bins from optimal solution)
BestFitDecreasing_Offline:	18 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	18 (0 bins from optimal solution)
BenMaier_Offline:	18 (0 bins from optimal solution)

N1C3W2\_A:

Oracle:	19
NextFit_Online:	23 (4 bins from optimal solution)
FirstFit_Online:	22 (3 bins from optimal solution)
BestFit_Online:	21 (2 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	27 (8 bins from optimal solution)
NextFit_Offline:	26 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BestFitDecreasing_Offline:	19 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BenMaier_Offline:	19 (0 bins from optimal solution)

N1C3W2\_B:

Oracle:	20
NextFit_Online:	26 (6 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	25 (5 bins from optimal solution)
RefinedFirstFit_Online:	29 (9 bins from optimal solution)
NextFit_Offline:	28 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BestFitDecreasing_Offline:	21 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (2 bins from optimal solution)
BenMaier_Offline:	21 (1 bins from optimal solution)

N1C3W2\_C:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	27 (5 bins from optimal solution)
RefinedFirstFit_Online:	31 (9 bins from optimal solution)
NextFit_Offline:	32 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W2\_D:

Oracle:	20
NextFit_Online:	27 (7 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	25 (5 bins from optimal solution)
RefinedFirstFit_Online:	28 (8 bins from optimal solution)
NextFit_Offline:	28 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	20 (0 bins from optimal solution)
BestFitDecreasing_Offline:	20 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BenMaier_Offline:	20 (0 bins from optimal solution)

N1C3W2\_E:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	29 (8 bins from optimal solution)
NextFit_Offline:	29 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)



N1C3W2\_F:

Oracle:	23
NextFit_Online:	26 (3 bins from optimal solution)
FirstFit_Online:	25 (2 bins from optimal solution)
BestFit_Online:	25 (2 bins from optimal solution)
WorstFit_Online:	26 (3 bins from optimal solution)
RefinedFirstFit_Online:	29 (6 bins from optimal solution)
NextFit_Offline:	30 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W2\_G:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	25 (2 bins from optimal solution)
WorstFit_Online:	28 (5 bins from optimal solution)
RefinedFirstFit_Online:	31 (8 bins from optimal solution)
NextFit_Offline:	31 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W2\_H:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	25 (2 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (9 bins from optimal solution)
NextFit_Offline:	31 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W2\_I:

Oracle:	19
NextFit_Online:	24 (5 bins from optimal solution)
FirstFit_Online:	20 (1 bins from optimal solution)
BestFit_Online:	20 (1 bins from optimal solution)
WorstFit_Online:	21 (2 bins from optimal solution)
RefinedFirstFit_Online:	25 (6 bins from optimal solution)
NextFit_Offline:	25 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BestFitDecreasing_Offline:	20 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BenMaier_Offline:	20 (1 bins from optimal solution)

N1C3W2\_J:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	27 (5 bins from optimal solution)
RefinedFirstFit_Online:	31 (9 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W2\_K:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	25 (4 bins from optimal solution)
RefinedFirstFit_Online:	30 (9 bins from optimal solution)
NextFit_Offline:	29 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BestFitDecreasing_Offline:	22 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	22 (1 bins from optimal solution)

N1C3W2\_L:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	23 (2 bins from optimal solution)
BestFit_Online:	23 (2 bins from optimal solution)
WorstFit_Online:	25 (4 bins from optimal solution)
RefinedFirstFit_Online:	28 (7 bins from optimal solution)
NextFit_Offline:	28 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C3W2\_M:

Oracle:	21
NextFit_Online:	28 (7 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	30 (9 bins from optimal solution)
NextFit_Offline:	30 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BestFitDecreasing_Offline:	22 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	22 (1 bins from optimal solution)

N1C3W2_N:	
Oracle:	22
NextFit_Online:	29 (7 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	28 (6 bins from optimal solution)
RefinedFirstFit_Online:	30 (8 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)
N1C3W2_O:	
Oracle:	21
NextFit_Online:	26 (5 bins from optimal solution)
FirstFit_Online:	22 (1 bins from optimal solution)
BestFit_Online:	22 (1 bins from optimal solution)
WorstFit_Online:	24 (3 bins from optimal solution)
RefinedFirstFit_Online:	28 (7 bins from optimal solution)
NextFit_Offline:	27 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)
N1C3W2_P:	
Oracle:	18
NextFit_Online:	22 (4 bins from optimal solution)
FirstFit_Online:	20 (2 bins from optimal solution)
BestFit_Online:	20 (2 bins from optimal solution)
WorstFit_Online:	20 (2 bins from optimal solution)
RefinedFirstFit_Online:	25 (7 bins from optimal solution)
NextFit_Offline:	24 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (1 bins from optimal solution)
BestFitDecreasing_Offline:	19 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	19 (1 bins from optimal solution)
BenMaier_Offline:	19 (1 bins from optimal solution)
N1C3W2_Q:	
Oracle:	19
NextFit_Online:	24 (5 bins from optimal solution)
FirstFit_Online:	21 (2 bins from optimal solution)
BestFit_Online:	21 (2 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	26 (7 bins from optimal solution)
NextFit_Offline:	26 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	19 (0 bins from optimal solution)
BestFitDecreasing_Offline:	19 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BenMaier_Offline:	19 (0 bins from optimal solution)

N1C3W2\_R:

Oracle:	19
NextFit_Online:	23 (4 bins from optimal solution)
FirstFit_Online:	20 (1 bins from optimal solution)
BestFit_Online:	20 (1 bins from optimal solution)
WorstFit_Online:	22 (3 bins from optimal solution)
RefinedFirstFit_Online:	24 (5 bins from optimal solution)
NextFit_Offline:	25 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BestFitDecreasing_Offline:	20 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	20 (1 bins from optimal solution)
BenMaier_Offline:	20 (1 bins from optimal solution)

N1C3W2\_S:

Oracle:	21
NextFit_Online:	28 (7 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	26 (5 bins from optimal solution)
RefinedFirstFit_Online:	30 (9 bins from optimal solution)
NextFit_Offline:	30 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C3W2\_T:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	24 (2 bins from optimal solution)
WorstFit_Online:	26 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (9 bins from optimal solution)
NextFit_Offline:	31 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W4\_A:

Oracle:	21
NextFit_Online:	25 (4 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	24 (3 bins from optimal solution)
RefinedFirstFit_Online:	29 (8 bins from optimal solution)
NextFit_Offline:	29 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BestFitDecreasing_Offline:	22 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	22 (1 bins from optimal solution)

N1C3W4\_B:

Oracle:	22
NextFit_Online:	27 (5 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	25 (3 bins from optimal solution)
RefinedFirstFit_Online:	30 (8 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BestFitDecreasing_Offline:	23 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BenMaier_Offline:	23 (1 bins from optimal solution)

N1C3W4\_C:

Oracle:	24
NextFit_Online:	31 (7 bins from optimal solution)
FirstFit_Online:	27 (3 bins from optimal solution)
BestFit_Online:	27 (3 bins from optimal solution)
WorstFit_Online:	29 (5 bins from optimal solution)
RefinedFirstFit_Online:	36 (12 bins from optimal solution)
NextFit_Offline:	35 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (1 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C3W4\_D:

Oracle:	21
NextFit_Online:	27 (6 bins from optimal solution)
FirstFit_Online:	25 (4 bins from optimal solution)
BestFit_Online:	25 (4 bins from optimal solution)
WorstFit_Online:	25 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (10 bins from optimal solution)
NextFit_Offline:	30 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BestFitDecreasing_Offline:	22 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	22 (1 bins from optimal solution)

N1C3W4\_E:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (9 bins from optimal solution)
NextFit_Offline:	31 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W4\_F:

Oracle:	21
NextFit_Online:	26 (5 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	25 (4 bins from optimal solution)
RefinedFirstFit_Online:	30 (9 bins from optimal solution)
NextFit_Offline:	30 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BestFitDecreasing_Offline:	22 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	22 (1 bins from optimal solution)

N1C3W4\_G:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	27 (4 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	28 (5 bins from optimal solution)
RefinedFirstFit_Online:	33 (10 bins from optimal solution)
NextFit_Offline:	33 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (1 bins from optimal solution)
BestFitDecreasing_Offline:	24 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (1 bins from optimal solution)
BenMaier_Offline:	24 (1 bins from optimal solution)

N1C3W4\_H:

Oracle:	23
NextFit_Online:	30 (7 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (9 bins from optimal solution)
NextFit_Offline:	32 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W4\_I:

Oracle:	23
NextFit_Online:	29 (6 bins from optimal solution)
FirstFit_Online:	26 (3 bins from optimal solution)
BestFit_Online:	26 (3 bins from optimal solution)
WorstFit_Online:	27 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (8 bins from optimal solution)
NextFit_Offline:	30 (7 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BestFitDecreasing_Offline:	23 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (0 bins from optimal solution)
BenMaier_Offline:	23 (0 bins from optimal solution)

N1C3W4\_J:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	26 (4 bins from optimal solution)
RefinedFirstFit_Online:	32 (10 bins from optimal solution)
NextFit_Offline:	31 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BestFitDecreasing_Offline:	23 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	23 (1 bins from optimal solution)
BenMaier_Offline:	23 (1 bins from optimal solution)

N1C3W4\_K:

Oracle:	24
NextFit_Online:	30 (6 bins from optimal solution)
FirstFit_Online:	27 (3 bins from optimal solution)
BestFit_Online:	27 (3 bins from optimal solution)
WorstFit_Online:	28 (4 bins from optimal solution)
RefinedFirstFit_Online:	33 (9 bins from optimal solution)
NextFit_Offline:	32 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BestFitDecreasing_Offline:	24 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	24 (0 bins from optimal solution)
BenMaier_Offline:	24 (0 bins from optimal solution)

N1C3W4\_L:

Oracle:	20
NextFit_Online:	25 (5 bins from optimal solution)
FirstFit_Online:	23 (3 bins from optimal solution)
BestFit_Online:	23 (3 bins from optimal solution)
WorstFit_Online:	23 (3 bins from optimal solution)
RefinedFirstFit_Online:	25 (5 bins from optimal solution)
NextFit_Offline:	26 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BestFitDecreasing_Offline:	21 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (1 bins from optimal solution)
BenMaier_Offline:	21 (1 bins from optimal solution)

N1C3W4\_M:

Oracle:	21
NextFit_Online:	26 (5 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	24 (3 bins from optimal solution)
RefinedFirstFit_Online:	27 (6 bins from optimal solution)
NextFit_Offline:	27 (6 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C3W4\_N:

Oracle:	21
NextFit_Online:	26 (5 bins from optimal solution)
FirstFit_Online:	24 (3 bins from optimal solution)
BestFit_Online:	24 (3 bins from optimal solution)
WorstFit_Online:	25 (4 bins from optimal solution)
RefinedFirstFit_Online:	30 (9 bins from optimal solution)
NextFit_Offline:	29 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	21 (0 bins from optimal solution)
BestFitDecreasing_Offline:	21 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (1 bins from optimal solution)
BenMaier_Offline:	21 (0 bins from optimal solution)

N1C3W4\_O:

Oracle:	22
NextFit_Online:	27 (5 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	24 (2 bins from optimal solution)
WorstFit_Online:	25 (3 bins from optimal solution)
RefinedFirstFit_Online:	30 (8 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W4\_P:

Oracle:	25
NextFit_Online:	33 (8 bins from optimal solution)
FirstFit_Online:	28 (3 bins from optimal solution)
BestFit_Online:	28 (3 bins from optimal solution)
WorstFit_Online:	29 (4 bins from optimal solution)
RefinedFirstFit_Online:	35 (10 bins from optimal solution)
NextFit_Offline:	34 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)

N1C3W4\_Q:

Oracle:	25
NextFit_Online:	30 (5 bins from optimal solution)
FirstFit_Online:	27 (2 bins from optimal solution)
BestFit_Online:	27 (2 bins from optimal solution)
WorstFit_Online:	29 (4 bins from optimal solution)
RefinedFirstFit_Online:	35 (10 bins from optimal solution)
NextFit_Offline:	35 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BestFitDecreasing_Offline:	25 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (0 bins from optimal solution)
BenMaier_Offline:	25 (0 bins from optimal solution)



N1C3W4\_R:

Oracle:	22
NextFit_Online:	28 (6 bins from optimal solution)
FirstFit_Online:	26 (4 bins from optimal solution)
BestFit_Online:	25 (3 bins from optimal solution)
WorstFit_Online:	26 (4 bins from optimal solution)
RefinedFirstFit_Online:	31 (9 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W4\_S:

Oracle:	22
NextFit_Online:	26 (4 bins from optimal solution)
FirstFit_Online:	25 (3 bins from optimal solution)
BestFit_Online:	24 (2 bins from optimal solution)
WorstFit_Online:	25 (3 bins from optimal solution)
RefinedFirstFit_Online:	30 (8 bins from optimal solution)
NextFit_Offline:	30 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BestFitDecreasing_Offline:	22 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	22 (0 bins from optimal solution)
BenMaier_Offline:	22 (0 bins from optimal solution)

N1C3W4\_T:

Oracle:	24
NextFit_Online:	32 (8 bins from optimal solution)
FirstFit_Online:	28 (4 bins from optimal solution)
BestFit_Online:	28 (4 bins from optimal solution)
WorstFit_Online:	29 (5 bins from optimal solution)
RefinedFirstFit_Online:	35 (11 bins from optimal solution)
NextFit_Offline:	35 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	25 (1 bins from optimal solution)
BestFitDecreasing_Offline:	25 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	25 (1 bins from optimal solution)
BenMaier_Offline:	25 (1 bins from optimal solution)

N2C1W1\_A:

Oracle:	48
NextFit_Online:	64 (16 bins from optimal solution)
FirstFit_Online:	51 (3 bins from optimal solution)
BestFit_Online:	51 (3 bins from optimal solution)
WorstFit_Online:	55 (7 bins from optimal solution)
RefinedFirstFit_Online:	59 (11 bins from optimal solution)
NextFit_Offline:	61 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BestFitDecreasing_Offline:	48 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BenMaier_Offline:	48 (0 bins from optimal solution)

N2C1W1\_B:

Oracle:	49
NextFit_Online:	64 (15 bins from optimal solution)
FirstFit_Online:	51 (2 bins from optimal solution)
BestFit_Online:	51 (2 bins from optimal solution)
WorstFit_Online:	54 (5 bins from optimal solution)
RefinedFirstFit_Online:	59 (10 bins from optimal solution)
NextFit_Offline:	59 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BestFitDecreasing_Offline:	49 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BenMaier_Offline:	49 (0 bins from optimal solution)

N2C1W1\_C:

Oracle:	46
NextFit_Online:	61 (15 bins from optimal solution)
FirstFit_Online:	49 (3 bins from optimal solution)
BestFit_Online:	49 (3 bins from optimal solution)
WorstFit_Online:	53 (7 bins from optimal solution)
RefinedFirstFit_Online:	58 (12 bins from optimal solution)
NextFit_Offline:	59 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BestFitDecreasing_Offline:	46 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BenMaier_Offline:	46 (0 bins from optimal solution)

N2C1W1\_D:

Oracle:	50
NextFit_Online:	66 (16 bins from optimal solution)
FirstFit_Online:	53 (3 bins from optimal solution)
BestFit_Online:	52 (2 bins from optimal solution)
WorstFit_Online:	55 (5 bins from optimal solution)
RefinedFirstFit_Online:	62 (12 bins from optimal solution)
NextFit_Offline:	62 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C1W1\_E:

Oracle:	58
NextFit_Online:	69 (11 bins from optimal solution)
FirstFit_Online:	59 (1 bins from optimal solution)
BestFit_Online:	59 (1 bins from optimal solution)
WorstFit_Online:	63 (5 bins from optimal solution)
RefinedFirstFit_Online:	68 (10 bins from optimal solution)
NextFit_Offline:	68 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BestFitDecreasing_Offline:	58 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BenMaier_Offline:	58 (0 bins from optimal solution)

N2C1W1\_F:

Oracle:	50
NextFit_Online:	67 (17 bins from optimal solution)
FirstFit_Online:	53 (3 bins from optimal solution)
BestFit_Online:	52 (2 bins from optimal solution)
WorstFit_Online:	55 (5 bins from optimal solution)
RefinedFirstFit_Online:	60 (10 bins from optimal solution)
NextFit_Offline:	61 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C1W1\_G:

Oracle:	60
NextFit_Online:	71 (11 bins from optimal solution)
FirstFit_Online:	60 (0 bins from optimal solution)
BestFit_Online:	60 (0 bins from optimal solution)
WorstFit_Online:	63 (3 bins from optimal solution)
RefinedFirstFit_Online:	71 (11 bins from optimal solution)
NextFit_Offline:	72 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C1W1\_H:

Oracle:	52
NextFit_Online:	69 (17 bins from optimal solution)
FirstFit_Online:	55 (3 bins from optimal solution)
BestFit_Online:	54 (2 bins from optimal solution)
WorstFit_Online:	60 (8 bins from optimal solution)
RefinedFirstFit_Online:	66 (14 bins from optimal solution)
NextFit_Offline:	66 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BestFitDecreasing_Offline:	52 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BenMaier_Offline:	52 (0 bins from optimal solution)

N2C1W1\_I:

Oracle:	62
NextFit_Online:	75 (13 bins from optimal solution)
FirstFit_Online:	64 (2 bins from optimal solution)
BestFit_Online:	63 (1 bins from optimal solution)
WorstFit_Online:	67 (5 bins from optimal solution)
RefinedFirstFit_Online:	74 (12 bins from optimal solution)
NextFit_Offline:	74 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BestFitDecreasing_Offline:	62 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BenMaier_Offline:	62 (0 bins from optimal solution)

N2C1W1\_J:

Oracle:	59
NextFit_Online:	70 (11 bins from optimal solution)
FirstFit_Online:	61 (2 bins from optimal solution)
BestFit_Online:	60 (1 bins from optimal solution)
WorstFit_Online:	64 (5 bins from optimal solution)
RefinedFirstFit_Online:	71 (12 bins from optimal solution)
NextFit_Offline:	71 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (0 bins from optimal solution)
BestFitDecreasing_Offline:	59 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (0 bins from optimal solution)
BenMaier_Offline:	59 (0 bins from optimal solution)

N2C1W1\_K:

Oracle:	55
NextFit_Online:	69 (14 bins from optimal solution)
FirstFit_Online:	58 (3 bins from optimal solution)
BestFit_Online:	56 (1 bins from optimal solution)
WorstFit_Online:	62 (7 bins from optimal solution)
RefinedFirstFit_Online:	69 (14 bins from optimal solution)
NextFit_Offline:	68 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BestFitDecreasing_Offline:	55 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BenMaier_Offline:	55 (0 bins from optimal solution)

N2C1W1\_L:

Oracle:	55
NextFit_Online:	68 (13 bins from optimal solution)
FirstFit_Online:	56 (1 bins from optimal solution)
BestFit_Online:	56 (1 bins from optimal solution)
WorstFit_Online:	61 (6 bins from optimal solution)
RefinedFirstFit_Online:	66 (11 bins from optimal solution)
NextFit_Offline:	66 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BestFitDecreasing_Offline:	55 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BenMaier_Offline:	55 (0 bins from optimal solution)

N2C1W1\_M:

Oracle:	46
NextFit_Online:	63 (17 bins from optimal solution)
FirstFit_Online:	49 (3 bins from optimal solution)
BestFit_Online:	49 (3 bins from optimal solution)
WorstFit_Online:	54 (8 bins from optimal solution)
RefinedFirstFit_Online:	60 (14 bins from optimal solution)
NextFit_Offline:	60 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BestFitDecreasing_Offline:	46 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BenMaier_Offline:	46 (0 bins from optimal solution)

N2C1W1\_N:

Oracle:	48
NextFit_Online:	64 (16 bins from optimal solution)
FirstFit_Online:	52 (4 bins from optimal solution)
BestFit_Online:	51 (3 bins from optimal solution)
WorstFit_Online:	55 (7 bins from optimal solution)
RefinedFirstFit_Online:	62 (14 bins from optimal solution)
NextFit_Offline:	61 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BestFitDecreasing_Offline:	48 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BenMaier_Offline:	48 (0 bins from optimal solution)

N2C1W1\_O:

Oracle:	48
NextFit_Online:	63 (15 bins from optimal solution)
FirstFit_Online:	50 (2 bins from optimal solution)
BestFit_Online:	50 (2 bins from optimal solution)
WorstFit_Online:	53 (5 bins from optimal solution)
RefinedFirstFit_Online:	59 (11 bins from optimal solution)
NextFit_Offline:	60 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BestFitDecreasing_Offline:	48 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BenMaier_Offline:	48 (0 bins from optimal solution)

N2C1W1\_P:

Oracle:	54
NextFit_Online:	69 (15 bins from optimal solution)
FirstFit_Online:	56 (2 bins from optimal solution)
BestFit_Online:	56 (2 bins from optimal solution)
WorstFit_Online:	61 (7 bins from optimal solution)
RefinedFirstFit_Online:	67 (13 bins from optimal solution)
NextFit_Offline:	66 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BestFitDecreasing_Offline:	54 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BenMaier_Offline:	54 (0 bins from optimal solution)

N2C1W1\_Q:

Oracle:	46
NextFit_Online:	62 (16 bins from optimal solution)
FirstFit_Online:	50 (4 bins from optimal solution)
BestFit_Online:	49 (3 bins from optimal solution)
WorstFit_Online:	53 (7 bins from optimal solution)
RefinedFirstFit_Online:	60 (14 bins from optimal solution)
NextFit_Offline:	59 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BestFitDecreasing_Offline:	46 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BenMaier_Offline:	46 (0 bins from optimal solution)

N2C1W1\_R:

Oracle:	56
NextFit_Online:	69 (13 bins from optimal solution)
FirstFit_Online:	59 (3 bins from optimal solution)
BestFit_Online:	58 (2 bins from optimal solution)
WorstFit_Online:	63 (7 bins from optimal solution)
RefinedFirstFit_Online:	69 (13 bins from optimal solution)
NextFit_Offline:	69 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BestFitDecreasing_Offline:	56 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	57 (1 bins from optimal solution)
BenMaier_Offline:	56 (0 bins from optimal solution)

N2C1W1\_S:

Oracle:	45
NextFit_Online:	59 (14 bins from optimal solution)
FirstFit_Online:	48 (3 bins from optimal solution)
BestFit_Online:	47 (2 bins from optimal solution)
WorstFit_Online:	52 (7 bins from optimal solution)
RefinedFirstFit_Online:	56 (11 bins from optimal solution)
NextFit_Offline:	56 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BestFitDecreasing_Offline:	45 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	45 (0 bins from optimal solution)

N2C1W1\_T:

Oracle:	52
NextFit_Online:	67 (15 bins from optimal solution)
FirstFit_Online:	55 (3 bins from optimal solution)
BestFit_Online:	54 (2 bins from optimal solution)
WorstFit_Online:	58 (6 bins from optimal solution)
RefinedFirstFit_Online:	64 (12 bins from optimal solution)
NextFit_Offline:	65 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BestFitDecreasing_Offline:	52 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	53 (1 bins from optimal solution)
BenMaier_Offline:	52 (0 bins from optimal solution)

N2C1W2\_A:

Oracle:	64
NextFit_Online:	77 (13 bins from optimal solution)
FirstFit_Online:	65 (1 bins from optimal solution)
BestFit_Online:	65 (1 bins from optimal solution)
WorstFit_Online:	69 (5 bins from optimal solution)
RefinedFirstFit_Online:	77 (13 bins from optimal solution)
NextFit_Offline:	76 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BestFitDecreasing_Offline:	64 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BenMaier_Offline:	64 (0 bins from optimal solution)

N2C1W2\_B:

Oracle:	61
NextFit_Online:	73 (12 bins from optimal solution)
FirstFit_Online:	63 (2 bins from optimal solution)
BestFit_Online:	63 (2 bins from optimal solution)
WorstFit_Online:	66 (5 bins from optimal solution)
RefinedFirstFit_Online:	73 (12 bins from optimal solution)
NextFit_Offline:	73 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BestFitDecreasing_Offline:	61 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BenMaier_Offline:	61 (0 bins from optimal solution)

N2C1W2\_C:

Oracle:	68
NextFit_Online:	80 (12 bins from optimal solution)
FirstFit_Online:	68 (0 bins from optimal solution)
BestFit_Online:	68 (0 bins from optimal solution)
WorstFit_Online:	71 (3 bins from optimal solution)
RefinedFirstFit_Online:	80 (12 bins from optimal solution)
NextFit_Offline:	79 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BestFitDecreasing_Offline:	68 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BenMaier_Offline:	68 (0 bins from optimal solution)

N2C1W2\_D:

Oracle:	74
NextFit_Online:	89 (15 bins from optimal solution)
FirstFit_Online:	75 (1 bins from optimal solution)
BestFit_Online:	75 (1 bins from optimal solution)
WorstFit_Online:	78 (4 bins from optimal solution)
RefinedFirstFit_Online:	85 (11 bins from optimal solution)
NextFit_Offline:	84 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	74 (0 bins from optimal solution)
BestFitDecreasing_Offline:	74 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	74 (0 bins from optimal solution)
BenMaier_Offline:	74 (0 bins from optimal solution)

N2C1W2\_E:

Oracle:	65
NextFit_Online:	79 (14 bins from optimal solution)
FirstFit_Online:	67 (2 bins from optimal solution)
BestFit_Online:	66 (1 bins from optimal solution)
WorstFit_Online:	70 (5 bins from optimal solution)
RefinedFirstFit_Online:	78 (13 bins from optimal solution)
NextFit_Offline:	78 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N2C1W2\_F:

Oracle:	65
NextFit_Online:	78 (13 bins from optimal solution)
FirstFit_Online:	67 (2 bins from optimal solution)
BestFit_Online:	66 (1 bins from optimal solution)
WorstFit_Online:	68 (3 bins from optimal solution)
RefinedFirstFit_Online:	77 (12 bins from optimal solution)
NextFit_Offline:	76 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N2C1W2\_G:

Oracle:	73
NextFit_Online:	85 (12 bins from optimal solution)
FirstFit_Online:	73 (0 bins from optimal solution)
BestFit_Online:	73 (0 bins from optimal solution)
WorstFit_Online:	78 (5 bins from optimal solution)
RefinedFirstFit_Online:	82 (9 bins from optimal solution)
NextFit_Offline:	82 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BestFitDecreasing_Offline:	73 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BenMaier_Offline:	73 (0 bins from optimal solution)

N2C1W2\_H:

Oracle:	70
NextFit_Online:	82 (12 bins from optimal solution)
FirstFit_Online:	71 (1 bins from optimal solution)
BestFit_Online:	71 (1 bins from optimal solution)
WorstFit_Online:	74 (4 bins from optimal solution)
RefinedFirstFit_Online:	81 (11 bins from optimal solution)
NextFit_Offline:	81 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BestFitDecreasing_Offline:	70 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BenMaier_Offline:	70 (0 bins from optimal solution)

N2C1W2\_I:

Oracle:	67
NextFit_Online:	80 (13 bins from optimal solution)
FirstFit_Online:	69 (2 bins from optimal solution)
BestFit_Online:	68 (1 bins from optimal solution)
WorstFit_Online:	71 (4 bins from optimal solution)
RefinedFirstFit_Online:	79 (12 bins from optimal solution)
NextFit_Offline:	79 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BestFitDecreasing_Offline:	67 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BenMaier_Offline:	67 (0 bins from optimal solution)



N2C1W2\_J:

Oracle:	67
NextFit_Online:	79 (12 bins from optimal solution)
FirstFit_Online:	69 (2 bins from optimal solution)
BestFit_Online:	68 (1 bins from optimal solution)
WorstFit_Online:	73 (6 bins from optimal solution)
RefinedFirstFit_Online:	79 (12 bins from optimal solution)
NextFit_Offline:	79 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BestFitDecreasing_Offline:	67 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BenMaier_Offline:	67 (0 bins from optimal solution)

N2C1W2\_K:

Oracle:	72
NextFit_Online:	88 (16 bins from optimal solution)
FirstFit_Online:	73 (1 bins from optimal solution)
BestFit_Online:	72 (0 bins from optimal solution)
WorstFit_Online:	77 (5 bins from optimal solution)
RefinedFirstFit_Online:	82 (10 bins from optimal solution)
NextFit_Offline:	82 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	72 (0 bins from optimal solution)
BestFitDecreasing_Offline:	72 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	72 (0 bins from optimal solution)
BenMaier_Offline:	72 (0 bins from optimal solution)

N2C1W2\_L:

Oracle:	62
NextFit_Online:	76 (14 bins from optimal solution)
FirstFit_Online:	64 (2 bins from optimal solution)
BestFit_Online:	64 (2 bins from optimal solution)
WorstFit_Online:	68 (6 bins from optimal solution)
RefinedFirstFit_Online:	75 (13 bins from optimal solution)
NextFit_Offline:	76 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BestFitDecreasing_Offline:	62 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BenMaier_Offline:	62 (0 bins from optimal solution)

N2C1W2\_M:

Oracle:	65
NextFit_Online:	78 (13 bins from optimal solution)
FirstFit_Online:	67 (2 bins from optimal solution)
BestFit_Online:	66 (1 bins from optimal solution)
WorstFit_Online:	70 (5 bins from optimal solution)
RefinedFirstFit_Online:	79 (14 bins from optimal solution)
NextFit_Offline:	78 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N2C1W2\_N:

Oracle:	64
NextFit_Online:	78 (14 bins from optimal solution)
FirstFit_Online:	66 (2 bins from optimal solution)
BestFit_Online:	65 (1 bins from optimal solution)
WorstFit_Online:	69 (5 bins from optimal solution)
RefinedFirstFit_Online:	76 (12 bins from optimal solution)
NextFit_Offline:	76 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BestFitDecreasing_Offline:	64 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BenMaier_Offline:	64 (0 bins from optimal solution)

N2C1W2\_O:

Oracle:	64
NextFit_Online:	77 (13 bins from optimal solution)
FirstFit_Online:	66 (2 bins from optimal solution)
BestFit_Online:	65 (1 bins from optimal solution)
WorstFit_Online:	69 (5 bins from optimal solution)
RefinedFirstFit_Online:	75 (11 bins from optimal solution)
NextFit_Offline:	75 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BestFitDecreasing_Offline:	64 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	64 (0 bins from optimal solution)
BenMaier_Offline:	64 (0 bins from optimal solution)

N2C1W2\_P:

Oracle:	68
NextFit_Online:	83 (15 bins from optimal solution)
FirstFit_Online:	69 (1 bins from optimal solution)
BestFit_Online:	69 (1 bins from optimal solution)
WorstFit_Online:	73 (5 bins from optimal solution)
RefinedFirstFit_Online:	80 (12 bins from optimal solution)
NextFit_Offline:	80 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BestFitDecreasing_Offline:	68 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BenMaier_Offline:	68 (0 bins from optimal solution)

N2C1W2\_Q:

Oracle:	65
NextFit_Online:	78 (13 bins from optimal solution)
FirstFit_Online:	66 (1 bins from optimal solution)
BestFit_Online:	66 (1 bins from optimal solution)
WorstFit_Online:	70 (5 bins from optimal solution)
RefinedFirstFit_Online:	78 (13 bins from optimal solution)
NextFit_Offline:	78 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N2C1W2\_R:

Oracle:	67
NextFit_Online:	83 (16 bins from optimal solution)
FirstFit_Online:	69 (2 bins from optimal solution)
BestFit_Online:	68 (1 bins from optimal solution)
WorstFit_Online:	72 (5 bins from optimal solution)
RefinedFirstFit_Online:	80 (13 bins from optimal solution)
NextFit_Offline:	79 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BestFitDecreasing_Offline:	67 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BenMaier_Offline:	67 (0 bins from optimal solution)

N2C1W2\_S:

Oracle:	66
NextFit_Online:	78 (12 bins from optimal solution)
FirstFit_Online:	67 (1 bins from optimal solution)
BestFit_Online:	67 (1 bins from optimal solution)
WorstFit_Online:	70 (4 bins from optimal solution)
RefinedFirstFit_Online:	79 (13 bins from optimal solution)
NextFit_Offline:	79 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BestFitDecreasing_Offline:	66 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BenMaier_Offline:	66 (0 bins from optimal solution)

N2C1W2\_T:

Oracle:	66
NextFit_Online:	79 (13 bins from optimal solution)
FirstFit_Online:	67 (1 bins from optimal solution)
BestFit_Online:	66 (0 bins from optimal solution)
WorstFit_Online:	70 (4 bins from optimal solution)
RefinedFirstFit_Online:	78 (12 bins from optimal solution)
NextFit_Offline:	78 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BestFitDecreasing_Offline:	66 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BenMaier_Offline:	66 (0 bins from optimal solution)

N2C1W4\_A:

Oracle:	73
NextFit_Online:	87 (14 bins from optimal solution)
FirstFit_Online:	73 (0 bins from optimal solution)
BestFit_Online:	73 (0 bins from optimal solution)
WorstFit_Online:	77 (4 bins from optimal solution)
RefinedFirstFit_Online:	84 (11 bins from optimal solution)
NextFit_Offline:	84 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BestFitDecreasing_Offline:	73 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BenMaier_Offline:	73 (0 bins from optimal solution)

N2C1W4\_B:

Oracle:	71
NextFit_Online:	84 (13 bins from optimal solution)
FirstFit_Online:	72 (1 bins from optimal solution)
BestFit_Online:	72 (1 bins from optimal solution)
WorstFit_Online:	74 (3 bins from optimal solution)
RefinedFirstFit_Online:	82 (11 bins from optimal solution)
NextFit_Offline:	82 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BestFitDecreasing_Offline:	71 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BenMaier_Offline:	71 (0 bins from optimal solution)

N2C1W4\_C:

Oracle:	77
NextFit_Online:	91 (14 bins from optimal solution)
FirstFit_Online:	78 (1 bins from optimal solution)
BestFit_Online:	78 (1 bins from optimal solution)
WorstFit_Online:	81 (4 bins from optimal solution)
RefinedFirstFit_Online:	87 (10 bins from optimal solution)
NextFit_Offline:	87 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	77 (0 bins from optimal solution)
BestFitDecreasing_Offline:	77 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	77 (0 bins from optimal solution)
BenMaier_Offline:	77 (0 bins from optimal solution)

N2C1W4\_D:

Oracle:	82
NextFit_Online:	95 (13 bins from optimal solution)
FirstFit_Online:	82 (0 bins from optimal solution)
BestFit_Online:	82 (0 bins from optimal solution)
WorstFit_Online:	83 (1 bins from optimal solution)
RefinedFirstFit_Online:	90 (8 bins from optimal solution)
NextFit_Offline:	90 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	82 (0 bins from optimal solution)
BestFitDecreasing_Offline:	82 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	82 (0 bins from optimal solution)
BenMaier_Offline:	82 (0 bins from optimal solution)

N2C1W4\_E:

Oracle:	73
NextFit_Online:	87 (14 bins from optimal solution)
FirstFit_Online:	73 (0 bins from optimal solution)
BestFit_Online:	73 (0 bins from optimal solution)
WorstFit_Online:	76 (3 bins from optimal solution)
RefinedFirstFit_Online:	83 (10 bins from optimal solution)
NextFit_Offline:	83 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BestFitDecreasing_Offline:	73 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BenMaier_Offline:	73 (0 bins from optimal solution)

N2C1W4\_F:

Oracle:	77
NextFit_Online:	90 (13 bins from optimal solution)
FirstFit_Online:	78 (1 bins from optimal solution)
BestFit_Online:	78 (1 bins from optimal solution)
WorstFit_Online:	81 (4 bins from optimal solution)
RefinedFirstFit_Online:	87 (10 bins from optimal solution)
NextFit_Offline:	87 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	77 (0 bins from optimal solution)
BestFitDecreasing_Offline:	77 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	77 (0 bins from optimal solution)
BenMaier_Offline:	77 (0 bins from optimal solution)

N2C1W4\_G:

Oracle:	71
NextFit_Online:	87 (16 bins from optimal solution)
FirstFit_Online:	74 (3 bins from optimal solution)
BestFit_Online:	73 (2 bins from optimal solution)
WorstFit_Online:	77 (6 bins from optimal solution)
RefinedFirstFit_Online:	84 (13 bins from optimal solution)
NextFit_Offline:	84 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BestFitDecreasing_Offline:	71 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BenMaier_Offline:	71 (0 bins from optimal solution)

N2C1W4\_H:

Oracle:	75
NextFit_Online:	89 (14 bins from optimal solution)
FirstFit_Online:	76 (1 bins from optimal solution)
BestFit_Online:	76 (1 bins from optimal solution)
WorstFit_Online:	80 (5 bins from optimal solution)
RefinedFirstFit_Online:	85 (10 bins from optimal solution)
NextFit_Offline:	85 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BestFitDecreasing_Offline:	75 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BenMaier_Offline:	75 (0 bins from optimal solution)

N2C1W4\_I:

Oracle:	73
NextFit_Online:	89 (16 bins from optimal solution)
FirstFit_Online:	74 (1 bins from optimal solution)
BestFit_Online:	74 (1 bins from optimal solution)
WorstFit_Online:	78 (5 bins from optimal solution)
RefinedFirstFit_Online:	84 (11 bins from optimal solution)
NextFit_Offline:	84 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BestFitDecreasing_Offline:	73 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BenMaier_Offline:	73 (0 bins from optimal solution)

N2C1W4\_J:

Oracle:	74
NextFit_Online:	89 (15 bins from optimal solution)
FirstFit_Online:	75 (1 bins from optimal solution)
BestFit_Online:	75 (1 bins from optimal solution)
WorstFit_Online:	79 (5 bins from optimal solution)
RefinedFirstFit_Online:	85 (11 bins from optimal solution)
NextFit_Offline:	85 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	74 (0 bins from optimal solution)
BestFitDecreasing_Offline:	74 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	74 (0 bins from optimal solution)
BenMaier_Offline:	74 (0 bins from optimal solution)

N2C1W4\_K:

Oracle:	70
NextFit_Online:	86 (16 bins from optimal solution)
FirstFit_Online:	73 (3 bins from optimal solution)
BestFit_Online:	71 (1 bins from optimal solution)
WorstFit_Online:	76 (6 bins from optimal solution)
RefinedFirstFit_Online:	83 (13 bins from optimal solution)
NextFit_Offline:	83 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BestFitDecreasing_Offline:	70 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BenMaier_Offline:	70 (0 bins from optimal solution)

N2C1W4\_L:

Oracle:	75
NextFit_Online:	90 (15 bins from optimal solution)
FirstFit_Online:	76 (1 bins from optimal solution)
BestFit_Online:	75 (0 bins from optimal solution)
WorstFit_Online:	78 (3 bins from optimal solution)
RefinedFirstFit_Online:	85 (10 bins from optimal solution)
NextFit_Offline:	85 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BestFitDecreasing_Offline:	75 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BenMaier_Offline:	75 (0 bins from optimal solution)

N2C1W4\_M:

Oracle:	72
NextFit_Online:	86 (14 bins from optimal solution)
FirstFit_Online:	73 (1 bins from optimal solution)
BestFit_Online:	72 (0 bins from optimal solution)
WorstFit_Online:	74 (2 bins from optimal solution)
RefinedFirstFit_Online:	82 (10 bins from optimal solution)
NextFit_Offline:	82 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	72 (0 bins from optimal solution)
BestFitDecreasing_Offline:	72 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	72 (0 bins from optimal solution)
BenMaier_Offline:	72 (0 bins from optimal solution)

N2C1W4\_N:

Oracle:	71
NextFit_Online:	87 (16 bins from optimal solution)
FirstFit_Online:	72 (1 bins from optimal solution)
BestFit_Online:	71 (0 bins from optimal solution)
WorstFit_Online:	77 (6 bins from optimal solution)
RefinedFirstFit_Online:	83 (12 bins from optimal solution)
NextFit_Offline:	83 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BestFitDecreasing_Offline:	71 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BenMaier_Offline:	71 (0 bins from optimal solution)

N2C1W4\_O:

Oracle:	80
NextFit_Online:	92 (12 bins from optimal solution)
FirstFit_Online:	81 (1 bins from optimal solution)
BestFit_Online:	80 (0 bins from optimal solution)
WorstFit_Online:	82 (2 bins from optimal solution)
RefinedFirstFit_Online:	90 (10 bins from optimal solution)
NextFit_Offline:	89 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (0 bins from optimal solution)
BestFitDecreasing_Offline:	80 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	80 (0 bins from optimal solution)
BenMaier_Offline:	80 (0 bins from optimal solution)

N2C1W4\_P:

Oracle:	67
NextFit_Online:	78 (11 bins from optimal solution)
FirstFit_Online:	68 (1 bins from optimal solution)
BestFit_Online:	67 (0 bins from optimal solution)
WorstFit_Online:	72 (5 bins from optimal solution)
RefinedFirstFit_Online:	81 (14 bins from optimal solution)
NextFit_Offline:	80 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BestFitDecreasing_Offline:	67 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (0 bins from optimal solution)
BenMaier_Offline:	67 (0 bins from optimal solution)

N2C1W4\_Q:

Oracle:	75
NextFit_Online:	90 (15 bins from optimal solution)
FirstFit_Online:	76 (1 bins from optimal solution)
BestFit_Online:	76 (1 bins from optimal solution)
WorstFit_Online:	78 (3 bins from optimal solution)
RefinedFirstFit_Online:	84 (9 bins from optimal solution)
NextFit_Offline:	85 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BestFitDecreasing_Offline:	75 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	75 (0 bins from optimal solution)
BenMaier_Offline:	75 (0 bins from optimal solution)

N2C1W4\_R:

Oracle:	70
NextFit_Online:	87 (17 bins from optimal solution)
FirstFit_Online:	72 (2 bins from optimal solution)
BestFit_Online:	71 (1 bins from optimal solution)
WorstFit_Online:	76 (6 bins from optimal solution)
RefinedFirstFit_Online:	81 (11 bins from optimal solution)
NextFit_Offline:	82 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BestFitDecreasing_Offline:	70 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BenMaier_Offline:	70 (0 bins from optimal solution)

N2C1W4\_S:

Oracle:	80
NextFit_Online:	93 (13 bins from optimal solution)
FirstFit_Online:	81 (1 bins from optimal solution)
BestFit_Online:	80 (0 bins from optimal solution)
WorstFit_Online:	83 (3 bins from optimal solution)
RefinedFirstFit_Online:	88 (8 bins from optimal solution)
NextFit_Offline:	88 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (0 bins from optimal solution)
BestFitDecreasing_Offline:	80 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	80 (0 bins from optimal solution)
BenMaier_Offline:	80 (0 bins from optimal solution)

N2C1W4\_T:

Oracle:	70
NextFit_Online:	86 (16 bins from optimal solution)
FirstFit_Online:	71 (1 bins from optimal solution)
BestFit_Online:	71 (1 bins from optimal solution)
WorstFit_Online:	75 (5 bins from optimal solution)
RefinedFirstFit_Online:	83 (13 bins from optimal solution)
NextFit_Offline:	83 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BestFitDecreasing_Offline:	70 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BenMaier_Offline:	70 (0 bins from optimal solution)

N2C2W1\_A:

Oracle:	42
NextFit_Online:	56 (14 bins from optimal solution)
FirstFit_Online:	45 (3 bins from optimal solution)
BestFit_Online:	45 (3 bins from optimal solution)
WorstFit_Online:	49 (7 bins from optimal solution)
RefinedFirstFit_Online:	53 (11 bins from optimal solution)
NextFit_Offline:	54 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BestFitDecreasing_Offline:	42 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BenMaier_Offline:	42 (0 bins from optimal solution)



N2C2W1\_B:

Oracle:	50
NextFit_Online:	64 (14 bins from optimal solution)
FirstFit_Online:	52 (2 bins from optimal solution)
BestFit_Online:	51 (1 bins from optimal solution)
WorstFit_Online:	55 (5 bins from optimal solution)
RefinedFirstFit_Online:	63 (13 bins from optimal solution)
NextFit_Offline:	63 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C2W1\_C:

Oracle:	40
NextFit_Online:	54 (14 bins from optimal solution)
FirstFit_Online:	44 (4 bins from optimal solution)
BestFit_Online:	44 (4 bins from optimal solution)
WorstFit_Online:	47 (7 bins from optimal solution)
RefinedFirstFit_Online:	55 (15 bins from optimal solution)
NextFit_Offline:	55 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BestFitDecreasing_Offline:	40 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	41 (1 bins from optimal solution)
BenMaier_Offline:	40 (0 bins from optimal solution)

N2C2W1\_D:

Oracle:	42
NextFit_Online:	56 (14 bins from optimal solution)
FirstFit_Online:	46 (4 bins from optimal solution)
BestFit_Online:	46 (4 bins from optimal solution)
WorstFit_Online:	50 (8 bins from optimal solution)
RefinedFirstFit_Online:	56 (14 bins from optimal solution)
NextFit_Offline:	56 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BestFitDecreasing_Offline:	42 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	42 (0 bins from optimal solution)

N2C2W1\_E:

Oracle:	40
NextFit_Online:	54 (14 bins from optimal solution)
FirstFit_Online:	44 (4 bins from optimal solution)
BestFit_Online:	44 (4 bins from optimal solution)
WorstFit_Online:	47 (7 bins from optimal solution)
RefinedFirstFit_Online:	54 (14 bins from optimal solution)
NextFit_Offline:	54 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (0 bins from optimal solution)
BestFitDecreasing_Offline:	40 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	41 (1 bins from optimal solution)
BenMaier_Offline:	40 (0 bins from optimal solution)

N2C2W1\_F:

Oracle:	49
NextFit_Online:	65 (16 bins from optimal solution)
FirstFit_Online:	52 (3 bins from optimal solution)
BestFit_Online:	51 (2 bins from optimal solution)
WorstFit_Online:	55 (6 bins from optimal solution)
RefinedFirstFit_Online:	65 (16 bins from optimal solution)
NextFit_Offline:	64 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BestFitDecreasing_Offline:	49 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BenMaier_Offline:	49 (0 bins from optimal solution)

N2C2W1\_G:

Oracle:	45
NextFit_Online:	57 (12 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	48 (3 bins from optimal solution)
WorstFit_Online:	52 (7 bins from optimal solution)
RefinedFirstFit_Online:	57 (12 bins from optimal solution)
NextFit_Offline:	57 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BestFitDecreasing_Offline:	45 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BenMaier_Offline:	45 (0 bins from optimal solution)

N2C2W1\_H:

Oracle:	46
NextFit_Online:	61 (15 bins from optimal solution)
FirstFit_Online:	48 (2 bins from optimal solution)
BestFit_Online:	48 (2 bins from optimal solution)
WorstFit_Online:	52 (6 bins from optimal solution)
RefinedFirstFit_Online:	57 (11 bins from optimal solution)
NextFit_Offline:	59 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BestFitDecreasing_Offline:	46 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BenMaier_Offline:	46 (0 bins from optimal solution)

N2C2W1\_I:

Oracle:	45
NextFit_Online:	62 (17 bins from optimal solution)
FirstFit_Online:	48 (3 bins from optimal solution)
BestFit_Online:	48 (3 bins from optimal solution)
WorstFit_Online:	54 (9 bins from optimal solution)
RefinedFirstFit_Online:	61 (16 bins from optimal solution)
NextFit_Offline:	60 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BestFitDecreasing_Offline:	45 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BenMaier_Offline:	45 (0 bins from optimal solution)

N2C2W1\_J:

Oracle:	42
NextFit_Online:	57 (15 bins from optimal solution)
FirstFit_Online:	46 (4 bins from optimal solution)
BestFit_Online:	45 (3 bins from optimal solution)
WorstFit_Online:	49 (7 bins from optimal solution)
RefinedFirstFit_Online:	56 (14 bins from optimal solution)
NextFit_Offline:	58 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BestFitDecreasing_Offline:	42 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	42 (0 bins from optimal solution)

N2C2W1\_K:

Oracle:	41
NextFit_Online:	56 (15 bins from optimal solution)
FirstFit_Online:	46 (5 bins from optimal solution)
BestFit_Online:	45 (4 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	54 (13 bins from optimal solution)
NextFit_Offline:	54 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N2C2W1\_L:

Oracle:	49
NextFit_Online:	66 (17 bins from optimal solution)
FirstFit_Online:	52 (3 bins from optimal solution)
BestFit_Online:	51 (2 bins from optimal solution)
WorstFit_Online:	56 (7 bins from optimal solution)
RefinedFirstFit_Online:	62 (13 bins from optimal solution)
NextFit_Offline:	62 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BestFitDecreasing_Offline:	49 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BenMaier_Offline:	49 (0 bins from optimal solution)

N2C2W1\_M:

Oracle:	44
NextFit_Online:	60 (16 bins from optimal solution)
FirstFit_Online:	48 (4 bins from optimal solution)
BestFit_Online:	47 (3 bins from optimal solution)
WorstFit_Online:	52 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (15 bins from optimal solution)
NextFit_Offline:	60 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (0 bins from optimal solution)
BestFitDecreasing_Offline:	44 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	44 (0 bins from optimal solution)
BenMaier_Offline:	44 (0 bins from optimal solution)

N2C2W1\_N:

Oracle:	43
NextFit_Online:	59 (16 bins from optimal solution)
FirstFit_Online:	46 (3 bins from optimal solution)
BestFit_Online:	46 (3 bins from optimal solution)
WorstFit_Online:	51 (8 bins from optimal solution)
RefinedFirstFit_Online:	58 (15 bins from optimal solution)
NextFit_Offline:	58 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (0 bins from optimal solution)
BestFitDecreasing_Offline:	43 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BenMaier_Offline:	43 (0 bins from optimal solution)

N2C2W1\_O:

Oracle:	50
NextFit_Online:	66 (16 bins from optimal solution)
FirstFit_Online:	53 (3 bins from optimal solution)
BestFit_Online:	53 (3 bins from optimal solution)
WorstFit_Online:	57 (7 bins from optimal solution)
RefinedFirstFit_Online:	63 (13 bins from optimal solution)
NextFit_Offline:	64 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C2W1\_P:

Oracle:	46
NextFit_Online:	64 (18 bins from optimal solution)
FirstFit_Online:	50 (4 bins from optimal solution)
BestFit_Online:	49 (3 bins from optimal solution)
WorstFit_Online:	54 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (13 bins from optimal solution)
NextFit_Offline:	60 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BestFitDecreasing_Offline:	46 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (0 bins from optimal solution)
BenMaier_Offline:	46 (0 bins from optimal solution)

N2C2W1\_Q:

Oracle:	49
NextFit_Online:	64 (15 bins from optimal solution)
FirstFit_Online:	52 (3 bins from optimal solution)
BestFit_Online:	51 (2 bins from optimal solution)
WorstFit_Online:	55 (6 bins from optimal solution)
RefinedFirstFit_Online:	64 (15 bins from optimal solution)
NextFit_Offline:	64 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BestFitDecreasing_Offline:	49 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BenMaier_Offline:	49 (0 bins from optimal solution)

N2C2W1\_R:

Oracle:	41
NextFit_Online:	55 (14 bins from optimal solution)
FirstFit_Online:	45 (4 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	53 (12 bins from optimal solution)
NextFit_Offline:	55 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N2C2W1\_S:

Oracle:	43
NextFit_Online:	59 (16 bins from optimal solution)
FirstFit_Online:	47 (4 bins from optimal solution)
BestFit_Online:	47 (4 bins from optimal solution)
WorstFit_Online:	51 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (16 bins from optimal solution)
NextFit_Offline:	60 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C2W1\_T:

Oracle:	39
NextFit_Online:	52 (13 bins from optimal solution)
FirstFit_Online:	42 (3 bins from optimal solution)
BestFit_Online:	42 (3 bins from optimal solution)
WorstFit_Online:	46 (7 bins from optimal solution)
RefinedFirstFit_Online:	50 (11 bins from optimal solution)
NextFit_Offline:	51 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	39 (0 bins from optimal solution)
BestFitDecreasing_Offline:	39 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	39 (0 bins from optimal solution)
BenMaier_Offline:	39 (0 bins from optimal solution)

N2C2W2\_A:

Oracle:	52
NextFit_Online:	69 (17 bins from optimal solution)
FirstFit_Online:	55 (3 bins from optimal solution)
BestFit_Online:	54 (2 bins from optimal solution)
WorstFit_Online:	62 (10 bins from optimal solution)
RefinedFirstFit_Online:	66 (14 bins from optimal solution)
NextFit_Offline:	66 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BestFitDecreasing_Offline:	52 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BenMaier_Offline:	52 (0 bins from optimal solution)

N2C2W2\_B:

Oracle:	56
NextFit_Online:	69 (13 bins from optimal solution)
FirstFit_Online:	59 (3 bins from optimal solution)
BestFit_Online:	58 (2 bins from optimal solution)
WorstFit_Online:	64 (8 bins from optimal solution)
RefinedFirstFit_Online:	71 (15 bins from optimal solution)
NextFit_Offline:	71 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BestFitDecreasing_Offline:	56 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BenMaier_Offline:	56 (0 bins from optimal solution)

N2C2W2\_C:

Oracle:	53
NextFit_Online:	70 (17 bins from optimal solution)
FirstFit_Online:	56 (3 bins from optimal solution)
BestFit_Online:	55 (2 bins from optimal solution)
WorstFit_Online:	63 (10 bins from optimal solution)
RefinedFirstFit_Online:	71 (18 bins from optimal solution)
NextFit_Offline:	70 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BestFitDecreasing_Offline:	53 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BenMaier_Offline:	53 (0 bins from optimal solution)

N2C2W2\_D:

Oracle:	51
NextFit_Online:	68 (17 bins from optimal solution)
FirstFit_Online:	55 (4 bins from optimal solution)
BestFit_Online:	55 (4 bins from optimal solution)
WorstFit_Online:	59 (8 bins from optimal solution)
RefinedFirstFit_Online:	67 (16 bins from optimal solution)
NextFit_Offline:	67 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	51 (0 bins from optimal solution)
BestFitDecreasing_Offline:	51 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	51 (0 bins from optimal solution)
BenMaier_Offline:	51 (0 bins from optimal solution)

N2C2W2\_E:

Oracle:	54
NextFit_Online:	69 (15 bins from optimal solution)
FirstFit_Online:	56 (2 bins from optimal solution)
BestFit_Online:	55 (1 bins from optimal solution)
WorstFit_Online:	61 (7 bins from optimal solution)
RefinedFirstFit_Online:	67 (13 bins from optimal solution)
NextFit_Offline:	68 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BestFitDecreasing_Offline:	54 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BenMaier_Offline:	54 (0 bins from optimal solution)

N2C2W2\_F:

Oracle:	48
NextFit_Online:	64 (16 bins from optimal solution)
FirstFit_Online:	51 (3 bins from optimal solution)
BestFit_Online:	51 (3 bins from optimal solution)
WorstFit_Online:	56 (8 bins from optimal solution)
RefinedFirstFit_Online:	63 (15 bins from optimal solution)
NextFit_Offline:	63 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BestFitDecreasing_Offline:	48 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	48 (0 bins from optimal solution)
BenMaier_Offline:	48 (0 bins from optimal solution)

N2C2W2\_G:

Oracle:	53
NextFit_Online:	69 (16 bins from optimal solution)
FirstFit_Online:	57 (4 bins from optimal solution)
BestFit_Online:	55 (2 bins from optimal solution)
WorstFit_Online:	63 (10 bins from optimal solution)
RefinedFirstFit_Online:	69 (16 bins from optimal solution)
NextFit_Offline:	69 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BestFitDecreasing_Offline:	53 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BenMaier_Offline:	53 (0 bins from optimal solution)

N2C2W2\_H:

Oracle:	53
NextFit_Online:	69 (16 bins from optimal solution)
FirstFit_Online:	56 (3 bins from optimal solution)
BestFit_Online:	56 (3 bins from optimal solution)
WorstFit_Online:	63 (10 bins from optimal solution)
RefinedFirstFit_Online:	70 (17 bins from optimal solution)
NextFit_Offline:	70 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BestFitDecreasing_Offline:	53 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	53 (0 bins from optimal solution)
BenMaier_Offline:	53 (0 bins from optimal solution)

N2C2W2\_I:

Oracle:	49
NextFit_Online:	67 (18 bins from optimal solution)
FirstFit_Online:	53 (4 bins from optimal solution)
BestFit_Online:	52 (3 bins from optimal solution)
WorstFit_Online:	58 (9 bins from optimal solution)
RefinedFirstFit_Online:	66 (17 bins from optimal solution)
NextFit_Offline:	66 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BestFitDecreasing_Offline:	49 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (0 bins from optimal solution)
BenMaier_Offline:	49 (0 bins from optimal solution)

N2C2W2\_J:

Oracle:	56
NextFit_Online:	69 (13 bins from optimal solution)
FirstFit_Online:	59 (3 bins from optimal solution)
BestFit_Online:	58 (2 bins from optimal solution)
WorstFit_Online:	65 (9 bins from optimal solution)
RefinedFirstFit_Online:	72 (16 bins from optimal solution)
NextFit_Offline:	72 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BestFitDecreasing_Offline:	56 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BenMaier_Offline:	56 (0 bins from optimal solution)

N2C2W2\_K:

Oracle:	50
NextFit_Online:	67 (17 bins from optimal solution)
FirstFit_Online:	53 (3 bins from optimal solution)
BestFit_Online:	53 (3 bins from optimal solution)
WorstFit_Online:	59 (9 bins from optimal solution)
RefinedFirstFit_Online:	65 (15 bins from optimal solution)
NextFit_Offline:	66 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C2W2\_L:

Oracle:	52
NextFit_Online:	69 (17 bins from optimal solution)
FirstFit_Online:	55 (3 bins from optimal solution)
BestFit_Online:	54 (2 bins from optimal solution)
WorstFit_Online:	60 (8 bins from optimal solution)
RefinedFirstFit_Online:	67 (15 bins from optimal solution)
NextFit_Offline:	67 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BestFitDecreasing_Offline:	52 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	52 (0 bins from optimal solution)
BenMaier_Offline:	52 (0 bins from optimal solution)

N2C2W2\_M:

Oracle:	54
NextFit_Online:	69 (15 bins from optimal solution)
FirstFit_Online:	56 (2 bins from optimal solution)
BestFit_Online:	56 (2 bins from optimal solution)
WorstFit_Online:	62 (8 bins from optimal solution)
RefinedFirstFit_Online:	65 (11 bins from optimal solution)
NextFit_Offline:	66 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BestFitDecreasing_Offline:	54 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BenMaier_Offline:	54 (0 bins from optimal solution)



N2C2W2\_N:

Oracle:	51
NextFit_Online:	68 (17 bins from optimal solution)
FirstFit_Online:	55 (4 bins from optimal solution)
BestFit_Online:	54 (3 bins from optimal solution)
WorstFit_Online:	60 (9 bins from optimal solution)
RefinedFirstFit_Online:	67 (16 bins from optimal solution)
NextFit_Offline:	68 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	51 (0 bins from optimal solution)
BestFitDecreasing_Offline:	51 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	52 (1 bins from optimal solution)
BenMaier_Offline:	51 (0 bins from optimal solution)

N2C2W2\_O:

Oracle:	50
NextFit_Online:	67 (17 bins from optimal solution)
FirstFit_Online:	54 (4 bins from optimal solution)
BestFit_Online:	54 (4 bins from optimal solution)
WorstFit_Online:	60 (10 bins from optimal solution)
RefinedFirstFit_Online:	64 (14 bins from optimal solution)
NextFit_Offline:	66 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	51 (1 bins from optimal solution)
BestFitDecreasing_Offline:	51 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	51 (1 bins from optimal solution)
BenMaier_Offline:	51 (1 bins from optimal solution)

N2C2W2\_P:

Oracle:	50
NextFit_Online:	68 (18 bins from optimal solution)
FirstFit_Online:	53 (3 bins from optimal solution)
BestFit_Online:	52 (2 bins from optimal solution)
WorstFit_Online:	59 (9 bins from optimal solution)
RefinedFirstFit_Online:	66 (16 bins from optimal solution)
NextFit_Offline:	66 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BestFitDecreasing_Offline:	50 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	50 (0 bins from optimal solution)
BenMaier_Offline:	50 (0 bins from optimal solution)

N2C2W2\_Q:

Oracle:	54
NextFit_Online:	69 (15 bins from optimal solution)
FirstFit_Online:	58 (4 bins from optimal solution)
BestFit_Online:	57 (3 bins from optimal solution)
WorstFit_Online:	64 (10 bins from optimal solution)
RefinedFirstFit_Online:	68 (14 bins from optimal solution)
NextFit_Offline:	69 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BestFitDecreasing_Offline:	54 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	54 (0 bins from optimal solution)
BenMaier_Offline:	54 (0 bins from optimal solution)

N2C2W2\_R:

Oracle:	51
NextFit_Online:	69 (18 bins from optimal solution)
FirstFit_Online:	55 (4 bins from optimal solution)
BestFit_Online:	54 (3 bins from optimal solution)
WorstFit_Online:	60 (9 bins from optimal solution)
RefinedFirstFit_Online:	67 (16 bins from optimal solution)
NextFit_Offline:	67 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	51 (0 bins from optimal solution)
BestFitDecreasing_Offline:	51 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	51 (0 bins from optimal solution)
BenMaier_Offline:	51 (0 bins from optimal solution)

N2C2W2\_S:

Oracle:	58
NextFit_Online:	70 (12 bins from optimal solution)
FirstFit_Online:	61 (3 bins from optimal solution)
BestFit_Online:	60 (2 bins from optimal solution)
WorstFit_Online:	66 (8 bins from optimal solution)
RefinedFirstFit_Online:	75 (17 bins from optimal solution)
NextFit_Offline:	74 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BestFitDecreasing_Offline:	58 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BenMaier_Offline:	58 (0 bins from optimal solution)

N2C2W2\_T:

Oracle:	56
NextFit_Online:	70 (14 bins from optimal solution)
FirstFit_Online:	58 (2 bins from optimal solution)
BestFit_Online:	58 (2 bins from optimal solution)
WorstFit_Online:	63 (7 bins from optimal solution)
RefinedFirstFit_Online:	71 (15 bins from optimal solution)
NextFit_Offline:	71 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BestFitDecreasing_Offline:	56 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	56 (0 bins from optimal solution)
BenMaier_Offline:	56 (0 bins from optimal solution)

N2C2W4\_A:

Oracle:	57
NextFit_Online:	71 (14 bins from optimal solution)
FirstFit_Online:	58 (1 bins from optimal solution)
BestFit_Online:	58 (1 bins from optimal solution)
WorstFit_Online:	63 (6 bins from optimal solution)
RefinedFirstFit_Online:	73 (16 bins from optimal solution)
NextFit_Offline:	72 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BestFitDecreasing_Offline:	57 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BenMaier_Offline:	57 (0 bins from optimal solution)

N2C2W4\_B:

Oracle:	60
NextFit_Online:	74 (14 bins from optimal solution)
FirstFit_Online:	62 (2 bins from optimal solution)
BestFit_Online:	61 (1 bins from optimal solution)
WorstFit_Online:	67 (7 bins from optimal solution)
RefinedFirstFit_Online:	75 (15 bins from optimal solution)
NextFit_Offline:	75 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C2W4\_C:

Oracle:	65
NextFit_Online:	78 (13 bins from optimal solution)
FirstFit_Online:	66 (1 bins from optimal solution)
BestFit_Online:	66 (1 bins from optimal solution)
WorstFit_Online:	71 (6 bins from optimal solution)
RefinedFirstFit_Online:	80 (15 bins from optimal solution)
NextFit_Offline:	80 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N2C2W4\_D:

Oracle:	61
NextFit_Online:	75 (14 bins from optimal solution)
FirstFit_Online:	63 (2 bins from optimal solution)
BestFit_Online:	62 (1 bins from optimal solution)
WorstFit_Online:	67 (6 bins from optimal solution)
RefinedFirstFit_Online:	75 (14 bins from optimal solution)
NextFit_Offline:	75 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BestFitDecreasing_Offline:	61 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BenMaier_Offline:	61 (0 bins from optimal solution)

N2C2W4\_E:

Oracle:	60
NextFit_Online:	76 (16 bins from optimal solution)
FirstFit_Online:	63 (3 bins from optimal solution)
BestFit_Online:	62 (2 bins from optimal solution)
WorstFit_Online:	68 (8 bins from optimal solution)
RefinedFirstFit_Online:	75 (15 bins from optimal solution)
NextFit_Offline:	76 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C2W4\_F:

Oracle:	57
NextFit_Online:	71 (14 bins from optimal solution)
FirstFit_Online:	61 (4 bins from optimal solution)
BestFit_Online:	59 (2 bins from optimal solution)
WorstFit_Online:	65 (8 bins from optimal solution)
RefinedFirstFit_Online:	74 (17 bins from optimal solution)
NextFit_Offline:	74 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BestFitDecreasing_Offline:	57 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	58 (1 bins from optimal solution)
BenMaier_Offline:	57 (0 bins from optimal solution)

N2C2W4\_G:

Oracle:	61
NextFit_Online:	74 (13 bins from optimal solution)
FirstFit_Online:	63 (2 bins from optimal solution)
BestFit_Online:	62 (1 bins from optimal solution)
WorstFit_Online:	67 (6 bins from optimal solution)
RefinedFirstFit_Online:	77 (16 bins from optimal solution)
NextFit_Offline:	78 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BestFitDecreasing_Offline:	61 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BenMaier_Offline:	61 (0 bins from optimal solution)

N2C2W4\_H:

Oracle:	61
NextFit_Online:	76 (15 bins from optimal solution)
FirstFit_Online:	64 (3 bins from optimal solution)
BestFit_Online:	63 (2 bins from optimal solution)
WorstFit_Online:	68 (7 bins from optimal solution)
RefinedFirstFit_Online:	76 (15 bins from optimal solution)
NextFit_Offline:	77 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BestFitDecreasing_Offline:	61 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	61 (0 bins from optimal solution)
BenMaier_Offline:	61 (0 bins from optimal solution)

N2C2W4\_I:

Oracle:	58
NextFit_Online:	73 (15 bins from optimal solution)
FirstFit_Online:	62 (4 bins from optimal solution)
BestFit_Online:	60 (2 bins from optimal solution)
WorstFit_Online:	65 (7 bins from optimal solution)
RefinedFirstFit_Online:	74 (16 bins from optimal solution)
NextFit_Offline:	74 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BestFitDecreasing_Offline:	58 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	58 (0 bins from optimal solution)
BenMaier_Offline:	58 (0 bins from optimal solution)

N2C2W4\_J:

Oracle:	60
NextFit_Online:	75 (15 bins from optimal solution)
FirstFit_Online:	63 (3 bins from optimal solution)
BestFit_Online:	62 (2 bins from optimal solution)
WorstFit_Online:	66 (6 bins from optimal solution)
RefinedFirstFit_Online:	77 (17 bins from optimal solution)
NextFit_Offline:	76 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C2W4\_K:

Oracle:	59
NextFit_Online:	73 (14 bins from optimal solution)
FirstFit_Online:	62 (3 bins from optimal solution)
BestFit_Online:	60 (1 bins from optimal solution)
WorstFit_Online:	66 (7 bins from optimal solution)
RefinedFirstFit_Online:	77 (18 bins from optimal solution)
NextFit_Offline:	76 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (0 bins from optimal solution)
BestFitDecreasing_Offline:	59 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (0 bins from optimal solution)
BenMaier_Offline:	59 (0 bins from optimal solution)

N2C2W4\_L:

Oracle:	57
NextFit_Online:	71 (14 bins from optimal solution)
FirstFit_Online:	59 (2 bins from optimal solution)
BestFit_Online:	59 (2 bins from optimal solution)
WorstFit_Online:	65 (8 bins from optimal solution)
RefinedFirstFit_Online:	74 (17 bins from optimal solution)
NextFit_Offline:	74 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BestFitDecreasing_Offline:	57 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BenMaier_Offline:	57 (0 bins from optimal solution)

N2C2W4\_M:

Oracle:	60
NextFit_Online:	75 (15 bins from optimal solution)
FirstFit_Online:	63 (3 bins from optimal solution)
BestFit_Online:	61 (1 bins from optimal solution)
WorstFit_Online:	67 (7 bins from optimal solution)
RefinedFirstFit_Online:	76 (16 bins from optimal solution)
NextFit_Offline:	76 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C2W4\_N:

Oracle:	63
NextFit_Online:	76 (13 bins from optimal solution)
FirstFit_Online:	64 (1 bins from optimal solution)
BestFit_Online:	63 (0 bins from optimal solution)
WorstFit_Online:	69 (6 bins from optimal solution)
RefinedFirstFit_Online:	79 (16 bins from optimal solution)
NextFit_Offline:	78 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	63 (0 bins from optimal solution)
BestFitDecreasing_Offline:	63 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	63 (0 bins from optimal solution)
BenMaier_Offline:	63 (0 bins from optimal solution)

N2C2W4\_O:

Oracle:	62
NextFit_Online:	75 (13 bins from optimal solution)
FirstFit_Online:	64 (2 bins from optimal solution)
BestFit_Online:	64 (2 bins from optimal solution)
WorstFit_Online:	67 (5 bins from optimal solution)
RefinedFirstFit_Online:	78 (16 bins from optimal solution)
NextFit_Offline:	77 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BestFitDecreasing_Offline:	62 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BenMaier_Offline:	62 (0 bins from optimal solution)

N2C2W4\_P:

Oracle:	60
NextFit_Online:	73 (13 bins from optimal solution)
FirstFit_Online:	63 (3 bins from optimal solution)
BestFit_Online:	62 (2 bins from optimal solution)
WorstFit_Online:	65 (5 bins from optimal solution)
RefinedFirstFit_Online:	75 (15 bins from optimal solution)
NextFit_Offline:	76 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BestFitDecreasing_Offline:	60 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (0 bins from optimal solution)
BenMaier_Offline:	60 (0 bins from optimal solution)

N2C2W4\_Q:

Oracle:	62
NextFit_Online:	75 (13 bins from optimal solution)
FirstFit_Online:	63 (1 bins from optimal solution)
BestFit_Online:	63 (1 bins from optimal solution)
WorstFit_Online:	70 (8 bins from optimal solution)
RefinedFirstFit_Online:	78 (16 bins from optimal solution)
NextFit_Offline:	78 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BestFitDecreasing_Offline:	62 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	62 (0 bins from optimal solution)
BenMaier_Offline:	62 (0 bins from optimal solution)

N2C2W4\_R:

Oracle:	56
NextFit_Online:	72 (16 bins from optimal solution)
FirstFit_Online:	60 (4 bins from optimal solution)
BestFit_Online:	59 (3 bins from optimal solution)
WorstFit_Online:	64 (8 bins from optimal solution)
RefinedFirstFit_Online:	72 (16 bins from optimal solution)
NextFit_Offline:	72 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	57 (1 bins from optimal solution)
BestFitDecreasing_Offline:	57 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	57 (1 bins from optimal solution)
BenMaier_Offline:	57 (1 bins from optimal solution)

N2C2W4\_S:

Oracle:	55
NextFit_Online:	70 (15 bins from optimal solution)
FirstFit_Online:	57 (2 bins from optimal solution)
BestFit_Online:	57 (2 bins from optimal solution)
WorstFit_Online:	63 (8 bins from optimal solution)
RefinedFirstFit_Online:	73 (18 bins from optimal solution)
NextFit_Offline:	73 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BestFitDecreasing_Offline:	55 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	55 (0 bins from optimal solution)
BenMaier_Offline:	55 (0 bins from optimal solution)

N2C2W4\_T:

Oracle:	57
NextFit_Online:	71 (14 bins from optimal solution)
FirstFit_Online:	60 (3 bins from optimal solution)
BestFit_Online:	60 (3 bins from optimal solution)
WorstFit_Online:	64 (7 bins from optimal solution)
RefinedFirstFit_Online:	72 (15 bins from optimal solution)
NextFit_Offline:	72 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BestFitDecreasing_Offline:	57 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	57 (0 bins from optimal solution)
BenMaier_Offline:	57 (0 bins from optimal solution)

N2C3W1\_A:

Oracle:	35
NextFit_Online:	45 (10 bins from optimal solution)
FirstFit_Online:	39 (4 bins from optimal solution)
BestFit_Online:	39 (4 bins from optimal solution)
WorstFit_Online:	41 (6 bins from optimal solution)
RefinedFirstFit_Online:	49 (14 bins from optimal solution)
NextFit_Offline:	50 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (1 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_B:

Oracle:	35
NextFit_Online:	42 (7 bins from optimal solution)
FirstFit_Online:	37 (2 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	38 (3 bins from optimal solution)
RefinedFirstFit_Online:	49 (14 bins from optimal solution)
NextFit_Offline:	50 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_C:

Oracle:	35
NextFit_Online:	44 (9 bins from optimal solution)
FirstFit_Online:	37 (2 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	39 (4 bins from optimal solution)
RefinedFirstFit_Online:	47 (12 bins from optimal solution)
NextFit_Offline:	48 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_D:

Oracle:	37
NextFit_Online:	47 (10 bins from optimal solution)
FirstFit_Online:	40 (3 bins from optimal solution)
BestFit_Online:	40 (3 bins from optimal solution)
WorstFit_Online:	43 (6 bins from optimal solution)
RefinedFirstFit_Online:	50 (13 bins from optimal solution)
NextFit_Offline:	52 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	37 (0 bins from optimal solution)
BestFitDecreasing_Offline:	37 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (1 bins from optimal solution)
BenMaier_Offline:	37 (0 bins from optimal solution)

N2C3W1\_E:

Oracle:	34
NextFit_Online:	43 (9 bins from optimal solution)
FirstFit_Online:	36 (2 bins from optimal solution)
BestFit_Online:	36 (2 bins from optimal solution)
WorstFit_Online:	38 (4 bins from optimal solution)
RefinedFirstFit_Online:	47 (13 bins from optimal solution)
NextFit_Offline:	48 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (1 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)



N2C3W1\_F:

Oracle:	35
NextFit_Online:	45 (10 bins from optimal solution)
FirstFit_Online:	37 (2 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	38 (3 bins from optimal solution)
RefinedFirstFit_Online:	48 (13 bins from optimal solution)
NextFit_Offline:	48 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_G:

Oracle:	33
NextFit_Online:	40 (7 bins from optimal solution)
FirstFit_Online:	35 (2 bins from optimal solution)
BestFit_Online:	34 (1 bins from optimal solution)
WorstFit_Online:	36 (3 bins from optimal solution)
RefinedFirstFit_Online:	44 (11 bins from optimal solution)
NextFit_Offline:	45 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N2C3W1\_H:

Oracle:	35
NextFit_Online:	47 (12 bins from optimal solution)
FirstFit_Online:	39 (4 bins from optimal solution)
BestFit_Online:	38 (3 bins from optimal solution)
WorstFit_Online:	41 (6 bins from optimal solution)
RefinedFirstFit_Online:	49 (14 bins from optimal solution)
NextFit_Offline:	50 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (1 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_I:

Oracle:	34
NextFit_Online:	42 (8 bins from optimal solution)
FirstFit_Online:	36 (2 bins from optimal solution)
BestFit_Online:	35 (1 bins from optimal solution)
WorstFit_Online:	37 (3 bins from optimal solution)
RefinedFirstFit_Online:	46 (12 bins from optimal solution)
NextFit_Offline:	47 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N2C3W1\_J:

Oracle:	33
NextFit_Online:	41 (8 bins from optimal solution)
FirstFit_Online:	36 (3 bins from optimal solution)
BestFit_Online:	36 (3 bins from optimal solution)
WorstFit_Online:	37 (4 bins from optimal solution)
RefinedFirstFit_Online:	47 (14 bins from optimal solution)
NextFit_Offline:	47 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (1 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N2C3W1\_K:

Oracle:	36
NextFit_Online:	47 (11 bins from optimal solution)
FirstFit_Online:	40 (4 bins from optimal solution)
BestFit_Online:	40 (4 bins from optimal solution)
WorstFit_Online:	42 (6 bins from optimal solution)
RefinedFirstFit_Online:	51 (15 bins from optimal solution)
NextFit_Offline:	51 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	37 (1 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N2C3W1\_L:

Oracle:	35
NextFit_Online:	45 (10 bins from optimal solution)
FirstFit_Online:	37 (2 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	39 (4 bins from optimal solution)
RefinedFirstFit_Online:	48 (13 bins from optimal solution)
NextFit_Offline:	48 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_M:

Oracle:	31
NextFit_Online:	37 (6 bins from optimal solution)
FirstFit_Online:	32 (1 bins from optimal solution)
BestFit_Online:	31 (0 bins from optimal solution)
WorstFit_Online:	34 (3 bins from optimal solution)
RefinedFirstFit_Online:	40 (9 bins from optimal solution)
NextFit_Offline:	41 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BestFitDecreasing_Offline:	31 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	31 (0 bins from optimal solution)
BenMaier_Offline:	31 (0 bins from optimal solution)

N2C3W1\_N:

Oracle:	32
NextFit_Online:	39 (7 bins from optimal solution)
FirstFit_Online:	34 (2 bins from optimal solution)
BestFit_Online:	34 (2 bins from optimal solution)
WorstFit_Online:	36 (4 bins from optimal solution)
RefinedFirstFit_Online:	45 (13 bins from optimal solution)
NextFit_Offline:	46 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	32 (0 bins from optimal solution)
BestFitDecreasing_Offline:	32 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	33 (1 bins from optimal solution)
BenMaier_Offline:	32 (0 bins from optimal solution)

N2C3W1\_O:

Oracle:	35
NextFit_Online:	44 (9 bins from optimal solution)
FirstFit_Online:	38 (3 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	39 (4 bins from optimal solution)
RefinedFirstFit_Online:	47 (12 bins from optimal solution)
NextFit_Offline:	47 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_P:

Oracle:	35
NextFit_Online:	46 (11 bins from optimal solution)
FirstFit_Online:	38 (3 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	41 (6 bins from optimal solution)
RefinedFirstFit_Online:	47 (12 bins from optimal solution)
NextFit_Offline:	48 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W1\_Q:

Oracle:	34
NextFit_Online:	40 (6 bins from optimal solution)
FirstFit_Online:	36 (2 bins from optimal solution)
BestFit_Online:	35 (1 bins from optimal solution)
WorstFit_Online:	38 (4 bins from optimal solution)
RefinedFirstFit_Online:	45 (11 bins from optimal solution)
NextFit_Offline:	46 (12 bins from optimal solution)
FirstFitDecreasing_Offline:	34 (0 bins from optimal solution)
BestFitDecreasing_Offline:	34 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	35 (1 bins from optimal solution)
BenMaier_Offline:	34 (0 bins from optimal solution)

N2C3W1\_R:

Oracle:	33
NextFit_Online:	43 (10 bins from optimal solution)
FirstFit_Online:	37 (4 bins from optimal solution)
BestFit_Online:	35 (2 bins from optimal solution)
WorstFit_Online:	37 (4 bins from optimal solution)
RefinedFirstFit_Online:	45 (12 bins from optimal solution)
NextFit_Offline:	46 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	33 (0 bins from optimal solution)
BestFitDecreasing_Offline:	33 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	34 (1 bins from optimal solution)
BenMaier_Offline:	33 (0 bins from optimal solution)

N2C3W1\_S:

Oracle:	36
NextFit_Online:	44 (8 bins from optimal solution)
FirstFit_Online:	38 (2 bins from optimal solution)
BestFit_Online:	37 (1 bins from optimal solution)
WorstFit_Online:	40 (4 bins from optimal solution)
RefinedFirstFit_Online:	46 (10 bins from optimal solution)
NextFit_Offline:	47 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BestFitDecreasing_Offline:	36 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (0 bins from optimal solution)
BenMaier_Offline:	36 (0 bins from optimal solution)

N2C3W1\_T:

Oracle:	35
NextFit_Online:	44 (9 bins from optimal solution)
FirstFit_Online:	37 (2 bins from optimal solution)
BestFit_Online:	37 (2 bins from optimal solution)
WorstFit_Online:	39 (4 bins from optimal solution)
RefinedFirstFit_Online:	49 (14 bins from optimal solution)
NextFit_Offline:	49 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	35 (0 bins from optimal solution)
BestFitDecreasing_Offline:	35 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	36 (1 bins from optimal solution)
BenMaier_Offline:	35 (0 bins from optimal solution)

N2C3W2\_A:

Oracle:	41
NextFit_Online:	53 (12 bins from optimal solution)
FirstFit_Online:	44 (3 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	55 (14 bins from optimal solution)
NextFit_Offline:	56 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)

N2C3W2\_B:

Oracle:	43
NextFit_Online:	57 (14 bins from optimal solution)
FirstFit_Online:	47 (4 bins from optimal solution)
BestFit_Online:	46 (3 bins from optimal solution)
WorstFit_Online:	53 (10 bins from optimal solution)
RefinedFirstFit_Online:	60 (17 bins from optimal solution)
NextFit_Offline:	61 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (0 bins from optimal solution)
BestFitDecreasing_Offline:	43 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (2 bins from optimal solution)
BenMaier_Offline:	43 (0 bins from optimal solution)

N2C3W2\_C:

Oracle:	41
NextFit_Online:	53 (12 bins from optimal solution)
FirstFit_Online:	45 (4 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	56 (15 bins from optimal solution)
NextFit_Offline:	57 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)

N2C3W2\_D:

Oracle:	41
NextFit_Online:	53 (12 bins from optimal solution)
FirstFit_Online:	45 (4 bins from optimal solution)
BestFit_Online:	45 (4 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	55 (14 bins from optimal solution)
NextFit_Offline:	55 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)

N2C3W2\_E:

Oracle:	39
NextFit_Online:	49 (10 bins from optimal solution)
FirstFit_Online:	43 (4 bins from optimal solution)
BestFit_Online:	42 (3 bins from optimal solution)
WorstFit_Online:	44 (5 bins from optimal solution)
RefinedFirstFit_Online:	52 (13 bins from optimal solution)
NextFit_Offline:	53 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (1 bins from optimal solution)
BestFitDecreasing_Offline:	40 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	40 (1 bins from optimal solution)
BenMaier_Offline:	40 (1 bins from optimal solution)

N2C3W2\_F:

Oracle:	39
NextFit_Online:	49 (10 bins from optimal solution)
FirstFit_Online:	42 (3 bins from optimal solution)
BestFit_Online:	42 (3 bins from optimal solution)
WorstFit_Online:	45 (6 bins from optimal solution)
RefinedFirstFit_Online:	49 (10 bins from optimal solution)
NextFit_Offline:	50 (11 bins from optimal solution)
FirstFitDecreasing_Offline:	40 (1 bins from optimal solution)
BestFitDecreasing_Offline:	40 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	40 (1 bins from optimal solution)
BenMaier_Offline:	40 (1 bins from optimal solution)

N2C3W2\_G:

Oracle:	41
NextFit_Online:	53 (12 bins from optimal solution)
FirstFit_Online:	44 (3 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	49 (8 bins from optimal solution)
RefinedFirstFit_Online:	56 (15 bins from optimal solution)
NextFit_Offline:	56 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N2C3W2\_H:

Oracle:	38
NextFit_Online:	47 (9 bins from optimal solution)
FirstFit_Online:	40 (2 bins from optimal solution)
BestFit_Online:	40 (2 bins from optimal solution)
WorstFit_Online:	42 (4 bins from optimal solution)
RefinedFirstFit_Online:	50 (12 bins from optimal solution)
NextFit_Offline:	51 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BestFitDecreasing_Offline:	38 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	38 (0 bins from optimal solution)
BenMaier_Offline:	38 (0 bins from optimal solution)

N2C3W2\_I:

Oracle:	44
NextFit_Online:	57 (13 bins from optimal solution)
FirstFit_Online:	48 (4 bins from optimal solution)
BestFit_Online:	47 (3 bins from optimal solution)
WorstFit_Online:	52 (8 bins from optimal solution)
RefinedFirstFit_Online:	63 (19 bins from optimal solution)
NextFit_Offline:	62 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W2\_J:

Oracle:	43
NextFit_Online:	58 (15 bins from optimal solution)
FirstFit_Online:	48 (5 bins from optimal solution)
BestFit_Online:	47 (4 bins from optimal solution)
WorstFit_Online:	53 (10 bins from optimal solution)
RefinedFirstFit_Online:	62 (19 bins from optimal solution)
NextFit_Offline:	62 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (3 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C3W2\_K:

Oracle:	42
NextFit_Online:	56 (14 bins from optimal solution)
FirstFit_Online:	46 (4 bins from optimal solution)
BestFit_Online:	46 (4 bins from optimal solution)
WorstFit_Online:	50 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (17 bins from optimal solution)
NextFit_Offline:	59 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (0 bins from optimal solution)
BestFitDecreasing_Offline:	42 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	42 (0 bins from optimal solution)

N2C3W2\_L:

Oracle:	41
NextFit_Online:	54 (13 bins from optimal solution)
FirstFit_Online:	45 (4 bins from optimal solution)
BestFit_Online:	45 (4 bins from optimal solution)
WorstFit_Online:	48 (7 bins from optimal solution)
RefinedFirstFit_Online:	56 (15 bins from optimal solution)
NextFit_Offline:	58 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)

N2C3W2\_M:

Oracle:	43
NextFit_Online:	57 (14 bins from optimal solution)
FirstFit_Online:	48 (5 bins from optimal solution)
BestFit_Online:	47 (4 bins from optimal solution)
WorstFit_Online:	52 (9 bins from optimal solution)
RefinedFirstFit_Online:	61 (18 bins from optimal solution)
NextFit_Offline:	62 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C3W2\_N:

Oracle:	41
NextFit_Online:	55 (14 bins from optimal solution)
FirstFit_Online:	45 (4 bins from optimal solution)
BestFit_Online:	45 (4 bins from optimal solution)
WorstFit_Online:	49 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (18 bins from optimal solution)
NextFit_Offline:	59 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (2 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)

N2C3W2\_O:

Oracle:	45
NextFit_Online:	59 (14 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	49 (4 bins from optimal solution)
WorstFit_Online:	54 (9 bins from optimal solution)
RefinedFirstFit_Online:	63 (18 bins from optimal solution)
NextFit_Offline:	64 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (0 bins from optimal solution)
BestFitDecreasing_Offline:	45 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	45 (0 bins from optimal solution)

N2C3W2\_P:

Oracle:	41
NextFit_Online:	53 (12 bins from optimal solution)
FirstFit_Online:	44 (3 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	47 (6 bins from optimal solution)
RefinedFirstFit_Online:	55 (14 bins from optimal solution)
NextFit_Offline:	56 (15 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BestFitDecreasing_Offline:	41 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	41 (0 bins from optimal solution)
BenMaier_Offline:	41 (0 bins from optimal solution)

N2C3W2\_Q:

Oracle:	41
NextFit_Online:	51 (10 bins from optimal solution)
FirstFit_Online:	44 (3 bins from optimal solution)
BestFit_Online:	44 (3 bins from optimal solution)
WorstFit_Online:	47 (6 bins from optimal solution)
RefinedFirstFit_Online:	54 (13 bins from optimal solution)
NextFit_Offline:	54 (13 bins from optimal solution)
FirstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BestFitDecreasing_Offline:	42 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (1 bins from optimal solution)
BenMaier_Offline:	42 (1 bins from optimal solution)



N2C3W2\_R:

Oracle:	40
NextFit_Online:	52 (12 bins from optimal solution)
FirstFit_Online:	43 (3 bins from optimal solution)
BestFit_Online:	43 (3 bins from optimal solution)
WorstFit_Online:	46 (6 bins from optimal solution)
RefinedFirstFit_Online:	56 (16 bins from optimal solution)
NextFit_Offline:	57 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	41 (1 bins from optimal solution)
BestFitDecreasing_Offline:	41 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	42 (2 bins from optimal solution)
BenMaier_Offline:	41 (1 bins from optimal solution)

N2C3W2\_S:

Oracle:	43
NextFit_Online:	59 (16 bins from optimal solution)
FirstFit_Online:	48 (5 bins from optimal solution)
BestFit_Online:	47 (4 bins from optimal solution)
WorstFit_Online:	53 (10 bins from optimal solution)
RefinedFirstFit_Online:	62 (19 bins from optimal solution)
NextFit_Offline:	63 (20 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (3 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C3W2\_T:

Oracle:	43
NextFit_Online:	56 (13 bins from optimal solution)
FirstFit_Online:	48 (5 bins from optimal solution)
BestFit_Online:	47 (4 bins from optimal solution)
WorstFit_Online:	52 (9 bins from optimal solution)
RefinedFirstFit_Online:	60 (17 bins from optimal solution)
NextFit_Offline:	60 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (0 bins from optimal solution)
BestFitDecreasing_Offline:	43 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BenMaier_Offline:	43 (0 bins from optimal solution)

N2C3W4\_A:

Oracle:	43
NextFit_Online:	56 (13 bins from optimal solution)
FirstFit_Online:	48 (5 bins from optimal solution)
BestFit_Online:	48 (5 bins from optimal solution)
WorstFit_Online:	52 (9 bins from optimal solution)
RefinedFirstFit_Online:	61 (18 bins from optimal solution)
NextFit_Offline:	61 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (2 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C3W4\_B:

Oracle:	45
NextFit_Online:	58 (13 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	49 (4 bins from optimal solution)
WorstFit_Online:	54 (9 bins from optimal solution)
RefinedFirstFit_Online:	63 (18 bins from optimal solution)
NextFit_Offline:	64 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_C:

Oracle:	42
NextFit_Online:	54 (12 bins from optimal solution)
FirstFit_Online:	46 (4 bins from optimal solution)
BestFit_Online:	46 (4 bins from optimal solution)
WorstFit_Online:	49 (7 bins from optimal solution)
RefinedFirstFit_Online:	58 (16 bins from optimal solution)
NextFit_Offline:	58 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BestFitDecreasing_Offline:	43 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	43 (1 bins from optimal solution)

N2C3W4\_D:

Oracle:	44
NextFit_Online:	56 (12 bins from optimal solution)
FirstFit_Online:	47 (3 bins from optimal solution)
BestFit_Online:	47 (3 bins from optimal solution)
WorstFit_Online:	52 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (15 bins from optimal solution)
NextFit_Offline:	60 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W4\_E:

Oracle:	47
NextFit_Online:	62 (15 bins from optimal solution)
FirstFit_Online:	51 (4 bins from optimal solution)
BestFit_Online:	51 (4 bins from optimal solution)
WorstFit_Online:	55 (8 bins from optimal solution)
RefinedFirstFit_Online:	66 (19 bins from optimal solution)
NextFit_Offline:	67 (20 bins from optimal solution)
FirstFitDecreasing_Offline:	47 (0 bins from optimal solution)
BestFitDecreasing_Offline:	47 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	49 (2 bins from optimal solution)
BenMaier_Offline:	47 (0 bins from optimal solution)

N2C3W4\_F:

Oracle:	45
NextFit_Online:	59 (14 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	49 (4 bins from optimal solution)
WorstFit_Online:	53 (8 bins from optimal solution)
RefinedFirstFit_Online:	63 (18 bins from optimal solution)
NextFit_Offline:	63 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_G:

Oracle:	44
NextFit_Online:	57 (13 bins from optimal solution)
FirstFit_Online:	48 (4 bins from optimal solution)
BestFit_Online:	48 (4 bins from optimal solution)
WorstFit_Online:	52 (8 bins from optimal solution)
RefinedFirstFit_Online:	59 (15 bins from optimal solution)
NextFit_Offline:	60 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W4\_H:

Oracle:	44
NextFit_Online:	56 (12 bins from optimal solution)
FirstFit_Online:	47 (3 bins from optimal solution)
BestFit_Online:	47 (3 bins from optimal solution)
WorstFit_Online:	51 (7 bins from optimal solution)
RefinedFirstFit_Online:	58 (14 bins from optimal solution)
NextFit_Offline:	58 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W4\_I:

Oracle:	44
NextFit_Online:	58 (14 bins from optimal solution)
FirstFit_Online:	48 (4 bins from optimal solution)
BestFit_Online:	48 (4 bins from optimal solution)
WorstFit_Online:	53 (9 bins from optimal solution)
RefinedFirstFit_Online:	62 (18 bins from optimal solution)
NextFit_Offline:	63 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W4\_J:

Oracle:	43
NextFit_Online:	55 (12 bins from optimal solution)
FirstFit_Online:	46 (3 bins from optimal solution)
BestFit_Online:	46 (3 bins from optimal solution)
WorstFit_Online:	49 (6 bins from optimal solution)
RefinedFirstFit_Online:	57 (14 bins from optimal solution)
NextFit_Offline:	57 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	44 (1 bins from optimal solution)
BestFitDecreasing_Offline:	44 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (2 bins from optimal solution)
BenMaier_Offline:	44 (1 bins from optimal solution)

N2C3W4\_K:

Oracle:	47
NextFit_Online:	61 (14 bins from optimal solution)
FirstFit_Online:	51 (4 bins from optimal solution)
BestFit_Online:	50 (3 bins from optimal solution)
WorstFit_Online:	55 (8 bins from optimal solution)
RefinedFirstFit_Online:	67 (20 bins from optimal solution)
NextFit_Offline:	67 (20 bins from optimal solution)
FirstFitDecreasing_Offline:	47 (0 bins from optimal solution)
BestFitDecreasing_Offline:	47 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	48 (1 bins from optimal solution)
BenMaier_Offline:	47 (0 bins from optimal solution)

N2C3W4\_L:

Oracle:	45
NextFit_Online:	59 (14 bins from optimal solution)
FirstFit_Online:	50 (5 bins from optimal solution)
BestFit_Online:	50 (5 bins from optimal solution)
WorstFit_Online:	53 (8 bins from optimal solution)
RefinedFirstFit_Online:	62 (17 bins from optimal solution)
NextFit_Offline:	63 (18 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_M:

Oracle:	44
NextFit_Online:	58 (14 bins from optimal solution)
FirstFit_Online:	48 (4 bins from optimal solution)
BestFit_Online:	48 (4 bins from optimal solution)
WorstFit_Online:	53 (9 bins from optimal solution)
RefinedFirstFit_Online:	63 (19 bins from optimal solution)
NextFit_Offline:	63 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BestFitDecreasing_Offline:	45 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	45 (1 bins from optimal solution)
BenMaier_Offline:	45 (1 bins from optimal solution)

N2C3W4\_N:

Oracle:	45
NextFit_Online:	60 (15 bins from optimal solution)
FirstFit_Online:	50 (5 bins from optimal solution)
BestFit_Online:	50 (5 bins from optimal solution)
WorstFit_Online:	54 (9 bins from optimal solution)
RefinedFirstFit_Online:	65 (20 bins from optimal solution)
NextFit_Offline:	65 (20 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	47 (2 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_O:

Oracle:	45
NextFit_Online:	57 (12 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	49 (4 bins from optimal solution)
WorstFit_Online:	53 (8 bins from optimal solution)
RefinedFirstFit_Online:	62 (17 bins from optimal solution)
NextFit_Offline:	62 (17 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_P:

Oracle:	45
NextFit_Online:	58 (13 bins from optimal solution)
FirstFit_Online:	49 (4 bins from optimal solution)
BestFit_Online:	49 (4 bins from optimal solution)
WorstFit_Online:	53 (8 bins from optimal solution)
RefinedFirstFit_Online:	63 (18 bins from optimal solution)
NextFit_Offline:	64 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BestFitDecreasing_Offline:	46 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	46 (1 bins from optimal solution)
BenMaier_Offline:	46 (1 bins from optimal solution)

N2C3W4\_Q:

Oracle:	46
NextFit_Online:	61 (15 bins from optimal solution)
FirstFit_Online:	51 (5 bins from optimal solution)
BestFit_Online:	51 (5 bins from optimal solution)
WorstFit_Online:	55 (9 bins from optimal solution)
RefinedFirstFit_Online:	65 (19 bins from optimal solution)
NextFit_Offline:	65 (19 bins from optimal solution)
FirstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BestFitDecreasing_Offline:	47 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BenMaier_Offline:	47 (1 bins from optimal solution)

N2C3W4\_R:

Oracle:	42
NextFit_Online:	54 (12 bins from optimal solution)
FirstFit_Online:	47 (5 bins from optimal solution)
BestFit_Online:	46 (4 bins from optimal solution)
WorstFit_Online:	50 (8 bins from optimal solution)
RefinedFirstFit_Online:	58 (16 bins from optimal solution)
NextFit_Offline:	58 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BestFitDecreasing_Offline:	43 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	43 (1 bins from optimal solution)

N2C3W4\_S:

Oracle:	42
NextFit_Online:	53 (11 bins from optimal solution)
FirstFit_Online:	45 (3 bins from optimal solution)
BestFit_Online:	45 (3 bins from optimal solution)
WorstFit_Online:	48 (6 bins from optimal solution)
RefinedFirstFit_Online:	55 (13 bins from optimal solution)
NextFit_Offline:	56 (14 bins from optimal solution)
FirstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BestFitDecreasing_Offline:	43 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	43 (1 bins from optimal solution)
BenMaier_Offline:	43 (1 bins from optimal solution)

N2C3W4\_T:

Oracle:	46
NextFit_Online:	59 (13 bins from optimal solution)
FirstFit_Online:	50 (4 bins from optimal solution)
BestFit_Online:	50 (4 bins from optimal solution)
WorstFit_Online:	53 (7 bins from optimal solution)
RefinedFirstFit_Online:	62 (16 bins from optimal solution)
NextFit_Offline:	62 (16 bins from optimal solution)
FirstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BestFitDecreasing_Offline:	47 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	47 (1 bins from optimal solution)
BenMaier_Offline:	47 (1 bins from optimal solution)

N3C1W1\_A:

Oracle:	105
NextFit_Online:	135 (30 bins from optimal solution)
FirstFit_Online:	111 (6 bins from optimal solution)
BestFit_Online:	110 (5 bins from optimal solution)
WorstFit_Online:	118 (13 bins from optimal solution)
RefinedFirstFit_Online:	130 (25 bins from optimal solution)
NextFit_Offline:	131 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	106 (1 bins from optimal solution)
BestFitDecreasing_Offline:	106 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	106 (1 bins from optimal solution)
BenMaier_Offline:	106 (1 bins from optimal solution)

N3C1W1\_B:

Oracle:	114
NextFit_Online:	144 (30 bins from optimal solution)
FirstFit_Online:	121 (7 bins from optimal solution)
BestFit_Online:	119 (5 bins from optimal solution)
WorstFit_Online:	126 (12 bins from optimal solution)
RefinedFirstFit_Online:	138 (24 bins from optimal solution)
NextFit_Offline:	139 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	114 (0 bins from optimal solution)
BestFitDecreasing_Offline:	114 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	114 (0 bins from optimal solution)
BenMaier_Offline:	114 (0 bins from optimal solution)

N3C1W1\_C:

Oracle:	99
NextFit_Online:	131 (32 bins from optimal solution)
FirstFit_Online:	106 (7 bins from optimal solution)
BestFit_Online:	105 (6 bins from optimal solution)
WorstFit_Online:	113 (14 bins from optimal solution)
RefinedFirstFit_Online:	123 (24 bins from optimal solution)
NextFit_Offline:	125 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	99 (0 bins from optimal solution)
BestFitDecreasing_Offline:	99 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	100 (1 bins from optimal solution)
BenMaier_Offline:	99 (0 bins from optimal solution)

N3C1W1\_D:

Oracle:	108
NextFit_Online:	138 (30 bins from optimal solution)
FirstFit_Online:	114 (6 bins from optimal solution)
BestFit_Online:	114 (6 bins from optimal solution)
WorstFit_Online:	122 (14 bins from optimal solution)
RefinedFirstFit_Online:	134 (26 bins from optimal solution)
NextFit_Offline:	135 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BestFitDecreasing_Offline:	108 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BenMaier_Offline:	108 (0 bins from optimal solution)

N3C1W1\_E:

Oracle:	98
NextFit_Online:	128 (30 bins from optimal solution)
FirstFit_Online:	103 (5 bins from optimal solution)
BestFit_Online:	102 (4 bins from optimal solution)
WorstFit_Online:	111 (13 bins from optimal solution)
RefinedFirstFit_Online:	122 (24 bins from optimal solution)
NextFit_Offline:	123 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	98 (0 bins from optimal solution)
BestFitDecreasing_Offline:	98 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	98 (0 bins from optimal solution)
BenMaier_Offline:	98 (0 bins from optimal solution)

N3C1W1\_F:

Oracle:	113
NextFit_Online:	139 (26 bins from optimal solution)
FirstFit_Online:	118 (5 bins from optimal solution)
BestFit_Online:	118 (5 bins from optimal solution)
WorstFit_Online:	123 (10 bins from optimal solution)
RefinedFirstFit_Online:	133 (20 bins from optimal solution)
NextFit_Offline:	134 (21 bins from optimal solution)
FirstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BestFitDecreasing_Offline:	113 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BenMaier_Offline:	113 (0 bins from optimal solution)

N3C1W1\_G:

Oracle:	111
NextFit_Online:	139 (28 bins from optimal solution)
FirstFit_Online:	118 (7 bins from optimal solution)
BestFit_Online:	117 (6 bins from optimal solution)
WorstFit_Online:	123 (12 bins from optimal solution)
RefinedFirstFit_Online:	134 (23 bins from optimal solution)
NextFit_Offline:	135 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	111 (0 bins from optimal solution)
BestFitDecreasing_Offline:	111 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	111 (0 bins from optimal solution)
BenMaier_Offline:	111 (0 bins from optimal solution)

N3C1W1\_H:

Oracle:	104
NextFit_Online:	136 (32 bins from optimal solution)
FirstFit_Online:	111 (7 bins from optimal solution)
BestFit_Online:	110 (6 bins from optimal solution)
WorstFit_Online:	117 (13 bins from optimal solution)
RefinedFirstFit_Online:	126 (22 bins from optimal solution)
NextFit_Offline:	128 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	104 (0 bins from optimal solution)
BestFitDecreasing_Offline:	104 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	104 (0 bins from optimal solution)
BenMaier_Offline:	104 (0 bins from optimal solution)

N3C1W1\_I:

Oracle:	100
NextFit_Online:	134 (34 bins from optimal solution)
FirstFit_Online:	107 (7 bins from optimal solution)
BestFit_Online:	106 (6 bins from optimal solution)
WorstFit_Online:	115 (15 bins from optimal solution)
RefinedFirstFit_Online:	124 (24 bins from optimal solution)
NextFit_Offline:	126 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	100 (0 bins from optimal solution)
BestFitDecreasing_Offline:	100 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	100 (0 bins from optimal solution)
BenMaier_Offline:	100 (0 bins from optimal solution)



N3C1W1\_J:

Oracle:	108
NextFit_Online:	138 (30 bins from optimal solution)
FirstFit_Online:	114 (6 bins from optimal solution)
BestFit_Online:	113 (5 bins from optimal solution)
WorstFit_Online:	123 (15 bins from optimal solution)
RefinedFirstFit_Online:	134 (26 bins from optimal solution)
NextFit_Offline:	135 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BestFitDecreasing_Offline:	108 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BenMaier_Offline:	108 (0 bins from optimal solution)

N3C1W1\_K:

Oracle:	102
NextFit_Online:	134 (32 bins from optimal solution)
FirstFit_Online:	109 (7 bins from optimal solution)
BestFit_Online:	108 (6 bins from optimal solution)
WorstFit_Online:	116 (14 bins from optimal solution)
RefinedFirstFit_Online:	125 (23 bins from optimal solution)
NextFit_Offline:	127 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BestFitDecreasing_Offline:	102 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BenMaier_Offline:	102 (0 bins from optimal solution)

N3C1W1\_L:

Oracle:	97
NextFit_Online:	130 (33 bins from optimal solution)
FirstFit_Online:	104 (7 bins from optimal solution)
BestFit_Online:	103 (6 bins from optimal solution)
WorstFit_Online:	112 (15 bins from optimal solution)
RefinedFirstFit_Online:	121 (24 bins from optimal solution)
NextFit_Offline:	122 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	97 (0 bins from optimal solution)
BestFitDecreasing_Offline:	97 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	99 (2 bins from optimal solution)
BenMaier_Offline:	97 (0 bins from optimal solution)

N3C1W1\_M:

Oracle:	106
NextFit_Online:	136 (30 bins from optimal solution)
FirstFit_Online:	112 (6 bins from optimal solution)
BestFit_Online:	111 (5 bins from optimal solution)
WorstFit_Online:	119 (13 bins from optimal solution)
RefinedFirstFit_Online:	132 (26 bins from optimal solution)
NextFit_Offline:	132 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	106 (0 bins from optimal solution)
BestFitDecreasing_Offline:	106 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (1 bins from optimal solution)
BenMaier_Offline:	106 (0 bins from optimal solution)

N3C1W1\_N:

Oracle:	93
NextFit_Online:	125 (32 bins from optimal solution)
FirstFit_Online:	98 (5 bins from optimal solution)
BestFit_Online:	97 (4 bins from optimal solution)
WorstFit_Online:	108 (15 bins from optimal solution)
RefinedFirstFit_Online:	116 (23 bins from optimal solution)
NextFit_Offline:	117 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	93 (0 bins from optimal solution)
BestFitDecreasing_Offline:	93 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	93 (0 bins from optimal solution)
BenMaier_Offline:	93 (0 bins from optimal solution)

N3C1W1\_O:

Oracle:	98
NextFit_Online:	131 (33 bins from optimal solution)
FirstFit_Online:	106 (8 bins from optimal solution)
BestFit_Online:	104 (6 bins from optimal solution)
WorstFit_Online:	113 (15 bins from optimal solution)
RefinedFirstFit_Online:	124 (26 bins from optimal solution)
NextFit_Offline:	126 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	99 (1 bins from optimal solution)
BestFitDecreasing_Offline:	99 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	99 (1 bins from optimal solution)
BenMaier_Offline:	99 (1 bins from optimal solution)

N3C1W1\_P:

Oracle:	108
NextFit_Online:	139 (31 bins from optimal solution)
FirstFit_Online:	116 (8 bins from optimal solution)
BestFit_Online:	114 (6 bins from optimal solution)
WorstFit_Online:	121 (13 bins from optimal solution)
RefinedFirstFit_Online:	134 (26 bins from optimal solution)
NextFit_Offline:	135 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BestFitDecreasing_Offline:	108 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	109 (1 bins from optimal solution)
BenMaier_Offline:	108 (0 bins from optimal solution)

N3C1W1\_Q:

Oracle:	98
NextFit_Online:	128 (30 bins from optimal solution)
FirstFit_Online:	103 (5 bins from optimal solution)
BestFit_Online:	102 (4 bins from optimal solution)
WorstFit_Online:	110 (12 bins from optimal solution)
RefinedFirstFit_Online:	119 (21 bins from optimal solution)
NextFit_Offline:	120 (22 bins from optimal solution)
FirstFitDecreasing_Offline:	98 (0 bins from optimal solution)
BestFitDecreasing_Offline:	98 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	98 (0 bins from optimal solution)
BenMaier_Offline:	98 (0 bins from optimal solution)

N3C1W1\_R:

Oracle:	99
NextFit_Online:	131 (32 bins from optimal solution)
FirstFit_Online:	107 (8 bins from optimal solution)
BestFit_Online:	106 (7 bins from optimal solution)
WorstFit_Online:	114 (15 bins from optimal solution)
RefinedFirstFit_Online:	124 (25 bins from optimal solution)
NextFit_Offline:	126 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	99 (0 bins from optimal solution)
BestFitDecreasing_Offline:	99 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	100 (1 bins from optimal solution)
BenMaier_Offline:	99 (0 bins from optimal solution)

N3C1W1\_S:

Oracle:	100
NextFit_Online:	132 (32 bins from optimal solution)
FirstFit_Online:	105 (5 bins from optimal solution)
BestFit_Online:	104 (4 bins from optimal solution)
WorstFit_Online:	113 (13 bins from optimal solution)
RefinedFirstFit_Online:	123 (23 bins from optimal solution)
NextFit_Offline:	124 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	100 (0 bins from optimal solution)
BestFitDecreasing_Offline:	100 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	100 (0 bins from optimal solution)
BenMaier_Offline:	100 (0 bins from optimal solution)

N3C1W1\_T:

Oracle:	102
NextFit_Online:	134 (32 bins from optimal solution)
FirstFit_Online:	109 (7 bins from optimal solution)
BestFit_Online:	108 (6 bins from optimal solution)
WorstFit_Online:	117 (15 bins from optimal solution)
RefinedFirstFit_Online:	126 (24 bins from optimal solution)
NextFit_Offline:	127 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BestFitDecreasing_Offline:	102 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BenMaier_Offline:	102 (0 bins from optimal solution)

N3C1W2\_A:

Oracle:	125
NextFit_Online:	160 (35 bins from optimal solution)
FirstFit_Online:	131 (6 bins from optimal solution)
BestFit_Online:	130 (5 bins from optimal solution)
WorstFit_Online:	137 (12 bins from optimal solution)
RefinedFirstFit_Online:	151 (26 bins from optimal solution)
NextFit_Offline:	152 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	125 (0 bins from optimal solution)
BestFitDecreasing_Offline:	125 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	125 (0 bins from optimal solution)
BenMaier_Offline:	125 (0 bins from optimal solution)

N3C1W2\_B:

Oracle:	126
NextFit_Online:	159 (33 bins from optimal solution)
FirstFit_Online:	131 (5 bins from optimal solution)
BestFit_Online:	130 (4 bins from optimal solution)
WorstFit_Online:	137 (11 bins from optimal solution)
RefinedFirstFit_Online:	154 (28 bins from optimal solution)
NextFit_Offline:	155 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BestFitDecreasing_Offline:	126 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BenMaier_Offline:	126 (0 bins from optimal solution)

N3C1W2\_C:

Oracle:	125
NextFit_Online:	161 (36 bins from optimal solution)
FirstFit_Online:	131 (6 bins from optimal solution)
BestFit_Online:	130 (5 bins from optimal solution)
WorstFit_Online:	138 (13 bins from optimal solution)
RefinedFirstFit_Online:	153 (28 bins from optimal solution)
NextFit_Offline:	154 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	125 (0 bins from optimal solution)
BestFitDecreasing_Offline:	125 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	125 (0 bins from optimal solution)
BenMaier_Offline:	125 (0 bins from optimal solution)

N3C1W2\_D:

Oracle:	139
NextFit_Online:	169 (30 bins from optimal solution)
FirstFit_Online:	142 (3 bins from optimal solution)
BestFit_Online:	141 (2 bins from optimal solution)
WorstFit_Online:	149 (10 bins from optimal solution)
RefinedFirstFit_Online:	162 (23 bins from optimal solution)
NextFit_Offline:	163 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	139 (0 bins from optimal solution)
BestFitDecreasing_Offline:	139 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	139 (0 bins from optimal solution)
BenMaier_Offline:	139 (0 bins from optimal solution)

N3C1W2\_E:

Oracle:	132
NextFit_Online:	166 (34 bins from optimal solution)
FirstFit_Online:	137 (5 bins from optimal solution)
BestFit_Online:	136 (4 bins from optimal solution)
WorstFit_Online:	145 (13 bins from optimal solution)
RefinedFirstFit_Online:	158 (26 bins from optimal solution)
NextFit_Offline:	158 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BestFitDecreasing_Offline:	132 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BenMaier_Offline:	132 (0 bins from optimal solution)

N3C1W2\_F:

Oracle:	123
NextFit_Online:	160 (37 bins from optimal solution)
FirstFit_Online:	130 (7 bins from optimal solution)
BestFit_Online:	129 (6 bins from optimal solution)
WorstFit_Online:	138 (15 bins from optimal solution)
RefinedFirstFit_Online:	150 (27 bins from optimal solution)
NextFit_Offline:	151 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	123 (0 bins from optimal solution)
BestFitDecreasing_Offline:	123 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	123 (0 bins from optimal solution)
BenMaier_Offline:	123 (0 bins from optimal solution)

N3C1W2\_G:

Oracle:	132
NextFit_Online:	165 (33 bins from optimal solution)
FirstFit_Online:	137 (5 bins from optimal solution)
BestFit_Online:	136 (4 bins from optimal solution)
WorstFit_Online:	143 (11 bins from optimal solution)
RefinedFirstFit_Online:	156 (24 bins from optimal solution)
NextFit_Offline:	156 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BestFitDecreasing_Offline:	132 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BenMaier_Offline:	132 (0 bins from optimal solution)

N3C1W2\_H:

Oracle:	129
NextFit_Online:	163 (34 bins from optimal solution)
FirstFit_Online:	134 (5 bins from optimal solution)
BestFit_Online:	133 (4 bins from optimal solution)
WorstFit_Online:	141 (12 bins from optimal solution)
RefinedFirstFit_Online:	152 (23 bins from optimal solution)
NextFit_Offline:	154 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	130 (1 bins from optimal solution)
BestFitDecreasing_Offline:	130 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	130 (1 bins from optimal solution)
BenMaier_Offline:	130 (1 bins from optimal solution)

N3C1W2\_I:

Oracle:	126
NextFit_Online:	161 (35 bins from optimal solution)
FirstFit_Online:	133 (7 bins from optimal solution)
BestFit_Online:	131 (5 bins from optimal solution)
WorstFit_Online:	140 (14 bins from optimal solution)
RefinedFirstFit_Online:	154 (28 bins from optimal solution)
NextFit_Offline:	155 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BestFitDecreasing_Offline:	126 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BenMaier_Offline:	126 (0 bins from optimal solution)

N3C1W2\_J:

Oracle:	126
NextFit_Online:	161 (35 bins from optimal solution)
FirstFit_Online:	132 (6 bins from optimal solution)
BestFit_Online:	130 (4 bins from optimal solution)
WorstFit_Online:	138 (12 bins from optimal solution)
RefinedFirstFit_Online:	151 (25 bins from optimal solution)
NextFit_Offline:	152 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BestFitDecreasing_Offline:	126 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BenMaier_Offline:	126 (0 bins from optimal solution)

N3C1W2\_K:

Oracle:	120
NextFit_Online:	156 (36 bins from optimal solution)
FirstFit_Online:	126 (6 bins from optimal solution)
BestFit_Online:	124 (4 bins from optimal solution)
WorstFit_Online:	133 (13 bins from optimal solution)
RefinedFirstFit_Online:	145 (25 bins from optimal solution)
NextFit_Offline:	147 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	121 (1 bins from optimal solution)
BestFitDecreasing_Offline:	121 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	121 (1 bins from optimal solution)
BenMaier_Offline:	121 (1 bins from optimal solution)

N3C1W2\_L:

Oracle:	136
NextFit_Online:	170 (34 bins from optimal solution)
FirstFit_Online:	141 (5 bins from optimal solution)
BestFit_Online:	139 (3 bins from optimal solution)
WorstFit_Online:	149 (13 bins from optimal solution)
RefinedFirstFit_Online:	161 (25 bins from optimal solution)
NextFit_Offline:	161 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BestFitDecreasing_Offline:	136 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BenMaier_Offline:	136 (0 bins from optimal solution)

N3C1W2\_M:

Oracle:	136
NextFit_Online:	169 (33 bins from optimal solution)
FirstFit_Online:	140 (4 bins from optimal solution)
BestFit_Online:	139 (3 bins from optimal solution)
WorstFit_Online:	147 (11 bins from optimal solution)
RefinedFirstFit_Online:	161 (25 bins from optimal solution)
NextFit_Offline:	161 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BestFitDecreasing_Offline:	136 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BenMaier_Offline:	136 (0 bins from optimal solution)

N3C1W2\_N:

Oracle:	136
NextFit_Online:	169 (33 bins from optimal solution)
FirstFit_Online:	140 (4 bins from optimal solution)
BestFit_Online:	139 (3 bins from optimal solution)
WorstFit_Online:	148 (12 bins from optimal solution)
RefinedFirstFit_Online:	162 (26 bins from optimal solution)
NextFit_Offline:	162 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BestFitDecreasing_Offline:	136 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BenMaier_Offline:	136 (0 bins from optimal solution)

N3C1W2\_O:

Oracle:	127
NextFit_Online:	161 (34 bins from optimal solution)
FirstFit_Online:	133 (6 bins from optimal solution)
BestFit_Online:	131 (4 bins from optimal solution)
WorstFit_Online:	139 (12 bins from optimal solution)
RefinedFirstFit_Online:	155 (28 bins from optimal solution)
NextFit_Offline:	155 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	127 (0 bins from optimal solution)
BestFitDecreasing_Offline:	127 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	127 (0 bins from optimal solution)
BenMaier_Offline:	127 (0 bins from optimal solution)

N3C1W2\_P:

Oracle:	126
NextFit_Online:	160 (34 bins from optimal solution)
FirstFit_Online:	133 (7 bins from optimal solution)
BestFit_Online:	131 (5 bins from optimal solution)
WorstFit_Online:	139 (13 bins from optimal solution)
RefinedFirstFit_Online:	148 (22 bins from optimal solution)
NextFit_Offline:	150 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BestFitDecreasing_Offline:	126 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	126 (0 bins from optimal solution)
BenMaier_Offline:	126 (0 bins from optimal solution)

N3C1W2\_Q:

Oracle:	135
NextFit_Online:	168 (33 bins from optimal solution)
FirstFit_Online:	139 (4 bins from optimal solution)
BestFit_Online:	138 (3 bins from optimal solution)
WorstFit_Online:	149 (14 bins from optimal solution)
RefinedFirstFit_Online:	156 (21 bins from optimal solution)
NextFit_Offline:	158 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	135 (0 bins from optimal solution)
BestFitDecreasing_Offline:	135 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	135 (0 bins from optimal solution)
BenMaier_Offline:	135 (0 bins from optimal solution)

N3C1W2\_R:

Oracle:	123
NextFit_Online:	158 (35 bins from optimal solution)
FirstFit_Online:	127 (4 bins from optimal solution)
BestFit_Online:	126 (3 bins from optimal solution)
WorstFit_Online:	134 (11 bins from optimal solution)
RefinedFirstFit_Online:	146 (23 bins from optimal solution)
NextFit_Offline:	147 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	124 (1 bins from optimal solution)
BestFitDecreasing_Offline:	124 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	124 (1 bins from optimal solution)
BenMaier_Offline:	124 (1 bins from optimal solution)

N3C1W2\_S:

Oracle:	130
NextFit_Online:	164 (34 bins from optimal solution)
FirstFit_Online:	134 (4 bins from optimal solution)
BestFit_Online:	133 (3 bins from optimal solution)
WorstFit_Online:	142 (12 bins from optimal solution)
RefinedFirstFit_Online:	155 (25 bins from optimal solution)
NextFit_Offline:	156 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	130 (0 bins from optimal solution)
BestFitDecreasing_Offline:	130 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	130 (0 bins from optimal solution)
BenMaier_Offline:	130 (0 bins from optimal solution)

N3C1W2\_T:

Oracle:	136
NextFit_Online:	168 (32 bins from optimal solution)
FirstFit_Online:	140 (4 bins from optimal solution)
BestFit_Online:	138 (2 bins from optimal solution)
WorstFit_Online:	147 (11 bins from optimal solution)
RefinedFirstFit_Online:	161 (25 bins from optimal solution)
NextFit_Offline:	162 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BestFitDecreasing_Offline:	136 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	136 (0 bins from optimal solution)
BenMaier_Offline:	136 (0 bins from optimal solution)

N3C1W4\_A:

Oracle:	149
NextFit_Online:	180 (31 bins from optimal solution)
FirstFit_Online:	153 (4 bins from optimal solution)
BestFit_Online:	152 (3 bins from optimal solution)
WorstFit_Online:	160 (11 bins from optimal solution)
RefinedFirstFit_Online:	171 (22 bins from optimal solution)
NextFit_Offline:	172 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BestFitDecreasing_Offline:	149 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BenMaier_Offline:	149 (0 bins from optimal solution)



N3C1W4\_B:

Oracle:	149
NextFit_Online:	179 (30 bins from optimal solution)
FirstFit_Online:	152 (3 bins from optimal solution)
BestFit_Online:	152 (3 bins from optimal solution)
WorstFit_Online:	157 (8 bins from optimal solution)
RefinedFirstFit_Online:	171 (22 bins from optimal solution)
NextFit_Offline:	172 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BestFitDecreasing_Offline:	149 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BenMaier_Offline:	149 (0 bins from optimal solution)

N3C1W4\_C:

Oracle:	146
NextFit_Online:	176 (30 bins from optimal solution)
FirstFit_Online:	150 (4 bins from optimal solution)
BestFit_Online:	149 (3 bins from optimal solution)
WorstFit_Online:	155 (9 bins from optimal solution)
RefinedFirstFit_Online:	167 (21 bins from optimal solution)
NextFit_Offline:	167 (21 bins from optimal solution)
FirstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BestFitDecreasing_Offline:	146 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BenMaier_Offline:	146 (0 bins from optimal solution)

N3C1W4\_D:

Oracle:	148
NextFit_Online:	180 (32 bins from optimal solution)
FirstFit_Online:	151 (3 bins from optimal solution)
BestFit_Online:	150 (2 bins from optimal solution)
WorstFit_Online:	160 (12 bins from optimal solution)
RefinedFirstFit_Online:	170 (22 bins from optimal solution)
NextFit_Offline:	171 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BestFitDecreasing_Offline:	148 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BenMaier_Offline:	148 (0 bins from optimal solution)

N3C1W4\_E:

Oracle:	142
NextFit_Online:	173 (31 bins from optimal solution)
FirstFit_Online:	146 (4 bins from optimal solution)
BestFit_Online:	145 (3 bins from optimal solution)
WorstFit_Online:	153 (11 bins from optimal solution)
RefinedFirstFit_Online:	163 (21 bins from optimal solution)
NextFit_Offline:	163 (21 bins from optimal solution)
FirstFitDecreasing_Offline:	142 (0 bins from optimal solution)
BestFitDecreasing_Offline:	142 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	142 (0 bins from optimal solution)
BenMaier_Offline:	142 (0 bins from optimal solution)

N3C1W4\_F:

Oracle:	140
NextFit_Online:	172 (32 bins from optimal solution)
FirstFit_Online:	144 (4 bins from optimal solution)
BestFit_Online:	143 (3 bins from optimal solution)
WorstFit_Online:	150 (10 bins from optimal solution)
RefinedFirstFit_Online:	161 (21 bins from optimal solution)
NextFit_Offline:	163 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	140 (0 bins from optimal solution)
BestFitDecreasing_Offline:	140 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	140 (0 bins from optimal solution)
BenMaier_Offline:	140 (0 bins from optimal solution)

N3C1W4\_G:

Oracle:	148
NextFit_Online:	179 (31 bins from optimal solution)
FirstFit_Online:	151 (3 bins from optimal solution)
BestFit_Online:	151 (3 bins from optimal solution)
WorstFit_Online:	159 (11 bins from optimal solution)
RefinedFirstFit_Online:	170 (22 bins from optimal solution)
NextFit_Offline:	170 (22 bins from optimal solution)
FirstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BestFitDecreasing_Offline:	148 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BenMaier_Offline:	148 (0 bins from optimal solution)

N3C1W4\_H:

Oracle:	141
NextFit_Online:	173 (32 bins from optimal solution)
FirstFit_Online:	146 (5 bins from optimal solution)
BestFit_Online:	145 (4 bins from optimal solution)
WorstFit_Online:	153 (12 bins from optimal solution)
RefinedFirstFit_Online:	163 (22 bins from optimal solution)
NextFit_Offline:	164 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	141 (0 bins from optimal solution)
BestFitDecreasing_Offline:	141 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	141 (0 bins from optimal solution)
BenMaier_Offline:	141 (0 bins from optimal solution)

N3C1W4\_I:

Oracle:	140
NextFit_Online:	173 (33 bins from optimal solution)
FirstFit_Online:	144 (4 bins from optimal solution)
BestFit_Online:	143 (3 bins from optimal solution)
WorstFit_Online:	148 (8 bins from optimal solution)
RefinedFirstFit_Online:	162 (22 bins from optimal solution)
NextFit_Offline:	163 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	141 (1 bins from optimal solution)
BestFitDecreasing_Offline:	141 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	141 (1 bins from optimal solution)
BenMaier_Offline:	141 (1 bins from optimal solution)

N3C1W4\_J:

Oracle:	142
NextFit_Online:	174 (32 bins from optimal solution)
FirstFit_Online:	147 (5 bins from optimal solution)
BestFit_Online:	146 (4 bins from optimal solution)
WorstFit_Online:	154 (12 bins from optimal solution)
RefinedFirstFit_Online:	166 (24 bins from optimal solution)
NextFit_Offline:	168 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	142 (0 bins from optimal solution)
BestFitDecreasing_Offline:	142 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	142 (0 bins from optimal solution)
BenMaier_Offline:	142 (0 bins from optimal solution)

N3C1W4\_K:

Oracle:	147
NextFit_Online:	177 (30 bins from optimal solution)
FirstFit_Online:	151 (4 bins from optimal solution)
BestFit_Online:	150 (3 bins from optimal solution)
WorstFit_Online:	158 (11 bins from optimal solution)
RefinedFirstFit_Online:	169 (22 bins from optimal solution)
NextFit_Offline:	170 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	147 (0 bins from optimal solution)
BestFitDecreasing_Offline:	147 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	147 (0 bins from optimal solution)
BenMaier_Offline:	147 (0 bins from optimal solution)

N3C1W4\_L:

Oracle:	148
NextFit_Online:	179 (31 bins from optimal solution)
FirstFit_Online:	152 (4 bins from optimal solution)
BestFit_Online:	151 (3 bins from optimal solution)
WorstFit_Online:	158 (10 bins from optimal solution)
RefinedFirstFit_Online:	170 (22 bins from optimal solution)
NextFit_Offline:	171 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BestFitDecreasing_Offline:	148 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BenMaier_Offline:	148 (0 bins from optimal solution)

N3C1W4\_M:

Oracle:	149
NextFit_Online:	179 (30 bins from optimal solution)
FirstFit_Online:	153 (4 bins from optimal solution)
BestFit_Online:	152 (3 bins from optimal solution)
WorstFit_Online:	159 (10 bins from optimal solution)
RefinedFirstFit_Online:	172 (23 bins from optimal solution)
NextFit_Offline:	172 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BestFitDecreasing_Offline:	149 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	149 (0 bins from optimal solution)
BenMaier_Offline:	149 (0 bins from optimal solution)

N3C1W4\_N:

Oracle:	148
NextFit_Online:	174 (26 bins from optimal solution)
FirstFit_Online:	149 (1 bins from optimal solution)
BestFit_Online:	149 (1 bins from optimal solution)
WorstFit_Online:	157 (9 bins from optimal solution)
RefinedFirstFit_Online:	171 (23 bins from optimal solution)
NextFit_Offline:	171 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BestFitDecreasing_Offline:	148 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	148 (0 bins from optimal solution)
BenMaier_Offline:	148 (0 bins from optimal solution)

N3C1W4\_O:

Oracle:	143
NextFit_Online:	174 (31 bins from optimal solution)
FirstFit_Online:	145 (2 bins from optimal solution)
BestFit_Online:	145 (2 bins from optimal solution)
WorstFit_Online:	150 (7 bins from optimal solution)
RefinedFirstFit_Online:	165 (22 bins from optimal solution)
NextFit_Offline:	166 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	143 (0 bins from optimal solution)
BestFitDecreasing_Offline:	143 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	143 (0 bins from optimal solution)
BenMaier_Offline:	143 (0 bins from optimal solution)

N3C1W4\_P:

Oracle:	143
NextFit_Online:	175 (32 bins from optimal solution)
FirstFit_Online:	147 (4 bins from optimal solution)
BestFit_Online:	145 (2 bins from optimal solution)
WorstFit_Online:	153 (10 bins from optimal solution)
RefinedFirstFit_Online:	167 (24 bins from optimal solution)
NextFit_Offline:	168 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	143 (0 bins from optimal solution)
BestFitDecreasing_Offline:	143 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	143 (0 bins from optimal solution)
BenMaier_Offline:	143 (0 bins from optimal solution)

N3C1W4\_Q:

Oracle:	146
NextFit_Online:	178 (32 bins from optimal solution)
FirstFit_Online:	150 (4 bins from optimal solution)
BestFit_Online:	149 (3 bins from optimal solution)
WorstFit_Online:	156 (10 bins from optimal solution)
RefinedFirstFit_Online:	169 (23 bins from optimal solution)
NextFit_Offline:	170 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BestFitDecreasing_Offline:	146 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BenMaier_Offline:	146 (0 bins from optimal solution)

N3C1W4\_R:

Oracle:	145
NextFit_Online:	174 (29 bins from optimal solution)
FirstFit_Online:	148 (3 bins from optimal solution)
BestFit_Online:	148 (3 bins from optimal solution)
WorstFit_Online:	154 (9 bins from optimal solution)
RefinedFirstFit_Online:	169 (24 bins from optimal solution)
NextFit_Offline:	170 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	145 (0 bins from optimal solution)
BestFitDecreasing_Offline:	145 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	145 (0 bins from optimal solution)
BenMaier_Offline:	145 (0 bins from optimal solution)

N3C1W4\_S:

Oracle:	145
NextFit_Online:	175 (30 bins from optimal solution)
FirstFit_Online:	149 (4 bins from optimal solution)
BestFit_Online:	149 (4 bins from optimal solution)
WorstFit_Online:	155 (10 bins from optimal solution)
RefinedFirstFit_Online:	168 (23 bins from optimal solution)
NextFit_Offline:	169 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	145 (0 bins from optimal solution)
BestFitDecreasing_Offline:	145 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	145 (0 bins from optimal solution)
BenMaier_Offline:	145 (0 bins from optimal solution)

N3C1W4\_T:

Oracle:	146
NextFit_Online:	177 (31 bins from optimal solution)
FirstFit_Online:	150 (4 bins from optimal solution)
BestFit_Online:	148 (2 bins from optimal solution)
WorstFit_Online:	156 (10 bins from optimal solution)
RefinedFirstFit_Online:	168 (22 bins from optimal solution)
NextFit_Offline:	169 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BestFitDecreasing_Offline:	146 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	146 (0 bins from optimal solution)
BenMaier_Offline:	146 (0 bins from optimal solution)

N3C2W1\_A:

Oracle:	91
NextFit_Online:	121 (30 bins from optimal solution)
FirstFit_Online:	97 (6 bins from optimal solution)
BestFit_Online:	95 (4 bins from optimal solution)
WorstFit_Online:	106 (15 bins from optimal solution)
RefinedFirstFit_Online:	117 (26 bins from optimal solution)
NextFit_Offline:	119 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BestFitDecreasing_Offline:	91 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BenMaier_Offline:	91 (0 bins from optimal solution)

N3C2W1\_B:

Oracle:	82
NextFit_Online:	108 (26 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	88 (6 bins from optimal solution)
WorstFit_Online:	97 (15 bins from optimal solution)
RefinedFirstFit_Online:	109 (27 bins from optimal solution)
NextFit_Offline:	111 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (2 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C2W1\_C:

Oracle:	84
NextFit_Online:	113 (29 bins from optimal solution)
FirstFit_Online:	90 (6 bins from optimal solution)
BestFit_Online:	90 (6 bins from optimal solution)
WorstFit_Online:	98 (14 bins from optimal solution)
RefinedFirstFit_Online:	113 (29 bins from optimal solution)
NextFit_Offline:	115 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	84 (0 bins from optimal solution)
BestFitDecreasing_Offline:	84 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	85 (1 bins from optimal solution)
BenMaier_Offline:	84 (0 bins from optimal solution)

N3C2W1\_D:

Oracle:	85
NextFit_Online:	113 (28 bins from optimal solution)
FirstFit_Online:	91 (6 bins from optimal solution)
BestFit_Online:	90 (5 bins from optimal solution)
WorstFit_Online:	99 (14 bins from optimal solution)
RefinedFirstFit_Online:	113 (28 bins from optimal solution)
NextFit_Offline:	114 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	85 (0 bins from optimal solution)
BestFitDecreasing_Offline:	85 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	86 (1 bins from optimal solution)
BenMaier_Offline:	85 (0 bins from optimal solution)

N3C2W1\_E:

Oracle:	87
NextFit_Online:	115 (28 bins from optimal solution)
FirstFit_Online:	93 (6 bins from optimal solution)
BestFit_Online:	92 (5 bins from optimal solution)
WorstFit_Online:	101 (14 bins from optimal solution)
RefinedFirstFit_Online:	115 (28 bins from optimal solution)
NextFit_Offline:	117 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	87 (0 bins from optimal solution)
BestFitDecreasing_Offline:	87 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BenMaier_Offline:	87 (0 bins from optimal solution)

N3C2W1\_F:

Oracle:	88
NextFit_Online:	117 (29 bins from optimal solution)
FirstFit_Online:	94 (6 bins from optimal solution)
BestFit_Online:	93 (5 bins from optimal solution)
WorstFit_Online:	104 (16 bins from optimal solution)
RefinedFirstFit_Online:	119 (31 bins from optimal solution)
NextFit_Offline:	120 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	88 (0 bins from optimal solution)
BestFitDecreasing_Offline:	88 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (1 bins from optimal solution)
BenMaier_Offline:	88 (0 bins from optimal solution)

N3C2W1\_G:

Oracle:	87
NextFit_Online:	118 (31 bins from optimal solution)
FirstFit_Online:	95 (8 bins from optimal solution)
BestFit_Online:	94 (7 bins from optimal solution)
WorstFit_Online:	103 (16 bins from optimal solution)
RefinedFirstFit_Online:	118 (31 bins from optimal solution)
NextFit_Offline:	120 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BestFitDecreasing_Offline:	88 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BenMaier_Offline:	88 (1 bins from optimal solution)

N3C2W1\_H:

Oracle:	87
NextFit_Online:	119 (32 bins from optimal solution)
FirstFit_Online:	93 (6 bins from optimal solution)
BestFit_Online:	91 (4 bins from optimal solution)
WorstFit_Online:	102 (15 bins from optimal solution)
RefinedFirstFit_Online:	114 (27 bins from optimal solution)
NextFit_Offline:	116 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	87 (0 bins from optimal solution)
BestFitDecreasing_Offline:	87 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BenMaier_Offline:	87 (0 bins from optimal solution)

N3C2W1\_I:

Oracle:	87
NextFit_Online:	119 (32 bins from optimal solution)
FirstFit_Online:	94 (7 bins from optimal solution)
BestFit_Online:	93 (6 bins from optimal solution)
WorstFit_Online:	102 (15 bins from optimal solution)
RefinedFirstFit_Online:	114 (27 bins from optimal solution)
NextFit_Offline:	116 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	87 (0 bins from optimal solution)
BestFitDecreasing_Offline:	87 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BenMaier_Offline:	87 (0 bins from optimal solution)

N3C2W1\_J:

Oracle:	87
NextFit_Online:	118 (31 bins from optimal solution)
FirstFit_Online:	93 (6 bins from optimal solution)
BestFit_Online:	92 (5 bins from optimal solution)
WorstFit_Online:	101 (14 bins from optimal solution)
RefinedFirstFit_Online:	117 (30 bins from optimal solution)
NextFit_Offline:	118 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	87 (0 bins from optimal solution)
BestFitDecreasing_Offline:	87 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (1 bins from optimal solution)
BenMaier_Offline:	87 (0 bins from optimal solution)

N3C2W1\_K:

Oracle:	77
NextFit_Online:	98 (21 bins from optimal solution)
FirstFit_Online:	83 (6 bins from optimal solution)
BestFit_Online:	83 (6 bins from optimal solution)
WorstFit_Online:	90 (13 bins from optimal solution)
RefinedFirstFit_Online:	101 (24 bins from optimal solution)
NextFit_Offline:	104 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	78 (1 bins from optimal solution)
BestFitDecreasing_Offline:	78 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	78 (1 bins from optimal solution)
BenMaier_Offline:	78 (1 bins from optimal solution)

N3C2W1\_L:

Oracle:	91
NextFit_Online:	120 (29 bins from optimal solution)
FirstFit_Online:	98 (7 bins from optimal solution)
BestFit_Online:	96 (5 bins from optimal solution)
WorstFit_Online:	107 (16 bins from optimal solution)
RefinedFirstFit_Online:	120 (29 bins from optimal solution)
NextFit_Offline:	122 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BestFitDecreasing_Offline:	91 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BenMaier_Offline:	91 (0 bins from optimal solution)

N3C2W1\_M:

Oracle:	85
NextFit_Online:	114 (29 bins from optimal solution)
FirstFit_Online:	91 (6 bins from optimal solution)
BestFit_Online:	90 (5 bins from optimal solution)
WorstFit_Online:	99 (14 bins from optimal solution)
RefinedFirstFit_Online:	115 (30 bins from optimal solution)
NextFit_Offline:	117 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	85 (0 bins from optimal solution)
BestFitDecreasing_Offline:	85 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	87 (2 bins from optimal solution)
BenMaier_Offline:	85 (0 bins from optimal solution)



N3C2W1\_N:

Oracle:	91
NextFit_Online:	121 (30 bins from optimal solution)
FirstFit_Online:	97 (6 bins from optimal solution)
BestFit_Online:	96 (5 bins from optimal solution)
WorstFit_Online:	107 (16 bins from optimal solution)
RefinedFirstFit_Online:	118 (27 bins from optimal solution)
NextFit_Offline:	120 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BestFitDecreasing_Offline:	91 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	91 (0 bins from optimal solution)
BenMaier_Offline:	91 (0 bins from optimal solution)

N3C2W1\_O:

Oracle:	82
NextFit_Online:	110 (28 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	89 (7 bins from optimal solution)
WorstFit_Online:	97 (15 bins from optimal solution)
RefinedFirstFit_Online:	113 (31 bins from optimal solution)
NextFit_Offline:	114 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	82 (0 bins from optimal solution)
BestFitDecreasing_Offline:	82 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (2 bins from optimal solution)
BenMaier_Offline:	82 (0 bins from optimal solution)

N3C2W1\_P:

Oracle:	88
NextFit_Online:	120 (32 bins from optimal solution)
FirstFit_Online:	95 (7 bins from optimal solution)
BestFit_Online:	94 (6 bins from optimal solution)
WorstFit_Online:	104 (16 bins from optimal solution)
RefinedFirstFit_Online:	118 (30 bins from optimal solution)
NextFit_Offline:	120 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (1 bins from optimal solution)
BestFitDecreasing_Offline:	88 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BenMaier_Offline:	88 (0 bins from optimal solution)

N3C2W1\_Q:

Oracle:	82
NextFit_Online:	106 (24 bins from optimal solution)
FirstFit_Online:	88 (6 bins from optimal solution)
BestFit_Online:	88 (6 bins from optimal solution)
WorstFit_Online:	95 (13 bins from optimal solution)
RefinedFirstFit_Online:	109 (27 bins from optimal solution)
NextFit_Offline:	111 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	82 (0 bins from optimal solution)
BestFitDecreasing_Offline:	82 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BenMaier_Offline:	82 (0 bins from optimal solution)

N3C2W1\_R:

Oracle:	82
NextFit_Online:	110 (28 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	88 (6 bins from optimal solution)
WorstFit_Online:	96 (14 bins from optimal solution)
RefinedFirstFit_Online:	110 (28 bins from optimal solution)
NextFit_Offline:	113 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C2W1\_S:

Oracle:	89
NextFit_Online:	121 (32 bins from optimal solution)
FirstFit_Online:	95 (6 bins from optimal solution)
BestFit_Online:	94 (5 bins from optimal solution)
WorstFit_Online:	106 (17 bins from optimal solution)
RefinedFirstFit_Online:	116 (27 bins from optimal solution)
NextFit_Offline:	118 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (0 bins from optimal solution)
BestFitDecreasing_Offline:	89 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (1 bins from optimal solution)
BenMaier_Offline:	89 (0 bins from optimal solution)

N3C2W1\_T:

Oracle:	83
NextFit_Online:	109 (26 bins from optimal solution)
FirstFit_Online:	89 (6 bins from optimal solution)
BestFit_Online:	88 (5 bins from optimal solution)
WorstFit_Online:	97 (14 bins from optimal solution)
RefinedFirstFit_Online:	111 (28 bins from optimal solution)
NextFit_Offline:	112 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (0 bins from optimal solution)
BestFitDecreasing_Offline:	83 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	85 (2 bins from optimal solution)
BenMaier_Offline:	83 (0 bins from optimal solution)

N3C2W2\_A:

Oracle:	107
NextFit_Online:	137 (30 bins from optimal solution)
FirstFit_Online:	115 (8 bins from optimal solution)
BestFit_Online:	113 (6 bins from optimal solution)
WorstFit_Online:	127 (20 bins from optimal solution)
RefinedFirstFit_Online:	141 (34 bins from optimal solution)
NextFit_Offline:	143 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_B:

Oracle:	105
NextFit_Online:	134 (29 bins from optimal solution)
FirstFit_Online:	111 (6 bins from optimal solution)
BestFit_Online:	110 (5 bins from optimal solution)
WorstFit_Online:	121 (16 bins from optimal solution)
RefinedFirstFit_Online:	138 (33 bins from optimal solution)
NextFit_Offline:	139 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BestFitDecreasing_Offline:	105 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BenMaier_Offline:	105 (0 bins from optimal solution)

N3C2W2\_C:

Oracle:	104
NextFit_Online:	137 (33 bins from optimal solution)
FirstFit_Online:	112 (8 bins from optimal solution)
BestFit_Online:	112 (8 bins from optimal solution)
WorstFit_Online:	123 (19 bins from optimal solution)
RefinedFirstFit_Online:	137 (33 bins from optimal solution)
NextFit_Offline:	140 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	105 (1 bins from optimal solution)
BestFitDecreasing_Offline:	105 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	105 (1 bins from optimal solution)
BenMaier_Offline:	105 (1 bins from optimal solution)

N3C2W2\_D:

Oracle:	107
NextFit_Online:	139 (32 bins from optimal solution)
FirstFit_Online:	115 (8 bins from optimal solution)
BestFit_Online:	114 (7 bins from optimal solution)
WorstFit_Online:	127 (20 bins from optimal solution)
RefinedFirstFit_Online:	139 (32 bins from optimal solution)
NextFit_Offline:	140 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	108 (1 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_E:

Oracle:	116
NextFit_Online:	149 (33 bins from optimal solution)
FirstFit_Online:	123 (7 bins from optimal solution)
BestFit_Online:	122 (6 bins from optimal solution)
WorstFit_Online:	131 (15 bins from optimal solution)
RefinedFirstFit_Online:	144 (28 bins from optimal solution)
NextFit_Offline:	146 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	116 (0 bins from optimal solution)
BestFitDecreasing_Offline:	116 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	116 (0 bins from optimal solution)
BenMaier_Offline:	116 (0 bins from optimal solution)

N3C2W2\_F:

Oracle:	106
NextFit_Online:	137 (31 bins from optimal solution)
FirstFit_Online:	114 (8 bins from optimal solution)
BestFit_Online:	112 (6 bins from optimal solution)
WorstFit_Online:	126 (20 bins from optimal solution)
RefinedFirstFit_Online:	137 (31 bins from optimal solution)
NextFit_Offline:	138 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	106 (0 bins from optimal solution)
BestFitDecreasing_Offline:	106 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	106 (0 bins from optimal solution)
BenMaier_Offline:	106 (0 bins from optimal solution)

N3C2W2\_G:

Oracle:	102
NextFit_Online:	137 (35 bins from optimal solution)
FirstFit_Online:	111 (9 bins from optimal solution)
BestFit_Online:	110 (8 bins from optimal solution)
WorstFit_Online:	122 (20 bins from optimal solution)
RefinedFirstFit_Online:	136 (34 bins from optimal solution)
NextFit_Offline:	137 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BestFitDecreasing_Offline:	102 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BenMaier_Offline:	102 (0 bins from optimal solution)

N3C2W2\_H:

Oracle:	117
NextFit_Online:	145 (28 bins from optimal solution)
FirstFit_Online:	123 (6 bins from optimal solution)
BestFit_Online:	122 (5 bins from optimal solution)
WorstFit_Online:	132 (15 bins from optimal solution)
RefinedFirstFit_Online:	148 (31 bins from optimal solution)
NextFit_Offline:	149 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BestFitDecreasing_Offline:	117 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BenMaier_Offline:	117 (0 bins from optimal solution)

N3C2W2\_I:

Oracle:	102
NextFit_Online:	135 (33 bins from optimal solution)
FirstFit_Online:	108 (6 bins from optimal solution)
BestFit_Online:	107 (5 bins from optimal solution)
WorstFit_Online:	120 (18 bins from optimal solution)
RefinedFirstFit_Online:	133 (31 bins from optimal solution)
NextFit_Offline:	134 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BestFitDecreasing_Offline:	102 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	102 (0 bins from optimal solution)
BenMaier_Offline:	102 (0 bins from optimal solution)

N3C2W2\_J:

Oracle:	107
NextFit_Online:	138 (31 bins from optimal solution)
FirstFit_Online:	115 (8 bins from optimal solution)
BestFit_Online:	115 (8 bins from optimal solution)
WorstFit_Online:	127 (20 bins from optimal solution)
RefinedFirstFit_Online:	140 (33 bins from optimal solution)
NextFit_Offline:	141 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_K:

Oracle:	110
NextFit_Online:	141 (31 bins from optimal solution)
FirstFit_Online:	117 (7 bins from optimal solution)
BestFit_Online:	115 (5 bins from optimal solution)
WorstFit_Online:	127 (17 bins from optimal solution)
RefinedFirstFit_Online:	143 (33 bins from optimal solution)
NextFit_Offline:	145 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	110 (0 bins from optimal solution)
BestFitDecreasing_Offline:	110 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	110 (0 bins from optimal solution)
BenMaier_Offline:	110 (0 bins from optimal solution)

N3C2W2\_L:

Oracle:	105
NextFit_Online:	137 (32 bins from optimal solution)
FirstFit_Online:	114 (9 bins from optimal solution)
BestFit_Online:	112 (7 bins from optimal solution)
WorstFit_Online:	125 (20 bins from optimal solution)
RefinedFirstFit_Online:	139 (34 bins from optimal solution)
NextFit_Offline:	141 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BestFitDecreasing_Offline:	105 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BenMaier_Offline:	105 (0 bins from optimal solution)

N3C2W2\_M:

Oracle:	108
NextFit_Online:	142 (34 bins from optimal solution)
FirstFit_Online:	117 (9 bins from optimal solution)
BestFit_Online:	115 (7 bins from optimal solution)
WorstFit_Online:	129 (21 bins from optimal solution)
RefinedFirstFit_Online:	142 (34 bins from optimal solution)
NextFit_Offline:	142 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BestFitDecreasing_Offline:	108 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	108 (0 bins from optimal solution)
BenMaier_Offline:	108 (0 bins from optimal solution)

N3C2W2\_N:

Oracle:	105
NextFit_Online:	139 (34 bins from optimal solution)
FirstFit_Online:	114 (9 bins from optimal solution)
BestFit_Online:	112 (7 bins from optimal solution)
WorstFit_Online:	123 (18 bins from optimal solution)
RefinedFirstFit_Online:	139 (34 bins from optimal solution)
NextFit_Offline:	141 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	106 (1 bins from optimal solution)
BestFitDecreasing_Offline:	106 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	106 (1 bins from optimal solution)
BenMaier_Offline:	106 (1 bins from optimal solution)

N3C2W2\_O:

Oracle:	107
NextFit_Online:	139 (32 bins from optimal solution)
FirstFit_Online:	114 (7 bins from optimal solution)
BestFit_Online:	111 (4 bins from optimal solution)
WorstFit_Online:	126 (19 bins from optimal solution)
RefinedFirstFit_Online:	140 (33 bins from optimal solution)
NextFit_Offline:	141 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_P:

Oracle:	107
NextFit_Online:	139 (32 bins from optimal solution)
FirstFit_Online:	114 (7 bins from optimal solution)
BestFit_Online:	113 (6 bins from optimal solution)
WorstFit_Online:	127 (20 bins from optimal solution)
RefinedFirstFit_Online:	139 (32 bins from optimal solution)
NextFit_Offline:	140 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_Q:

Oracle:	105
NextFit_Online:	138 (33 bins from optimal solution)
FirstFit_Online:	113 (8 bins from optimal solution)
BestFit_Online:	112 (7 bins from optimal solution)
WorstFit_Online:	123 (18 bins from optimal solution)
RefinedFirstFit_Online:	139 (34 bins from optimal solution)
NextFit_Offline:	140 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BestFitDecreasing_Offline:	105 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	105 (0 bins from optimal solution)
BenMaier_Offline:	105 (0 bins from optimal solution)

N3C2W2\_R:

Oracle:	110
NextFit_Online:	139 (29 bins from optimal solution)
FirstFit_Online:	115 (5 bins from optimal solution)
BestFit_Online:	115 (5 bins from optimal solution)
WorstFit_Online:	127 (17 bins from optimal solution)
RefinedFirstFit_Online:	141 (31 bins from optimal solution)
NextFit_Offline:	142 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	110 (0 bins from optimal solution)
BestFitDecreasing_Offline:	110 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	110 (0 bins from optimal solution)
BenMaier_Offline:	110 (0 bins from optimal solution)

N3C2W2\_S:

Oracle:	107
NextFit_Online:	138 (31 bins from optimal solution)
FirstFit_Online:	113 (6 bins from optimal solution)
BestFit_Online:	112 (5 bins from optimal solution)
WorstFit_Online:	122 (15 bins from optimal solution)
RefinedFirstFit_Online:	140 (33 bins from optimal solution)
NextFit_Offline:	142 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W2\_T:

Oracle:	107
NextFit_Online:	139 (32 bins from optimal solution)
FirstFit_Online:	114 (7 bins from optimal solution)
BestFit_Online:	113 (6 bins from optimal solution)
WorstFit_Online:	125 (18 bins from optimal solution)
RefinedFirstFit_Online:	141 (34 bins from optimal solution)
NextFit_Offline:	142 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BestFitDecreasing_Offline:	107 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	107 (0 bins from optimal solution)
BenMaier_Offline:	107 (0 bins from optimal solution)

N3C2W4\_A:

Oracle:	113
NextFit_Online:	144 (31 bins from optimal solution)
FirstFit_Online:	122 (9 bins from optimal solution)
BestFit_Online:	120 (7 bins from optimal solution)
WorstFit_Online:	130 (17 bins from optimal solution)
RefinedFirstFit_Online:	148 (35 bins from optimal solution)
NextFit_Offline:	148 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BestFitDecreasing_Offline:	113 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BenMaier_Offline:	113 (0 bins from optimal solution)

N3C2W4\_B:

Oracle:	112
NextFit_Online:	143 (31 bins from optimal solution)
FirstFit_Online:	119 (7 bins from optimal solution)
BestFit_Online:	118 (6 bins from optimal solution)
WorstFit_Online:	129 (17 bins from optimal solution)
RefinedFirstFit_Online:	143 (31 bins from optimal solution)
NextFit_Offline:	144 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	112 (0 bins from optimal solution)
BestFitDecreasing_Offline:	112 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	113 (1 bins from optimal solution)
BenMaier_Offline:	112 (0 bins from optimal solution)

N3C2W4\_C:

Oracle:	132
NextFit_Online:	165 (33 bins from optimal solution)
FirstFit_Online:	137 (5 bins from optimal solution)
BestFit_Online:	136 (4 bins from optimal solution)
WorstFit_Online:	143 (11 bins from optimal solution)
RefinedFirstFit_Online:	159 (27 bins from optimal solution)
NextFit_Offline:	160 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BestFitDecreasing_Offline:	132 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	132 (0 bins from optimal solution)
BenMaier_Offline:	132 (0 bins from optimal solution)

N3C2W4\_D:

Oracle:	114
NextFit_Online:	150 (36 bins from optimal solution)
FirstFit_Online:	122 (8 bins from optimal solution)
BestFit_Online:	120 (6 bins from optimal solution)
WorstFit_Online:	130 (16 bins from optimal solution)
RefinedFirstFit_Online:	147 (33 bins from optimal solution)
NextFit_Offline:	147 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	114 (0 bins from optimal solution)
BestFitDecreasing_Offline:	114 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	114 (0 bins from optimal solution)
BenMaier_Offline:	114 (0 bins from optimal solution)

N3C2W4\_E:

Oracle:	110
NextFit_Online:	142 (32 bins from optimal solution)
FirstFit_Online:	118 (8 bins from optimal solution)
BestFit_Online:	117 (7 bins from optimal solution)
WorstFit_Online:	127 (17 bins from optimal solution)
RefinedFirstFit_Online:	143 (33 bins from optimal solution)
NextFit_Offline:	145 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	111 (1 bins from optimal solution)
BestFitDecreasing_Offline:	111 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	111 (1 bins from optimal solution)
BenMaier_Offline:	111 (1 bins from optimal solution)



N3C2W4\_F:

Oracle:	115
NextFit_Online:	147 (32 bins from optimal solution)
FirstFit_Online:	123 (8 bins from optimal solution)
BestFit_Online:	121 (6 bins from optimal solution)
WorstFit_Online:	130 (15 bins from optimal solution)
RefinedFirstFit_Online:	149 (34 bins from optimal solution)
NextFit_Offline:	150 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	115 (0 bins from optimal solution)
BestFitDecreasing_Offline:	115 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	115 (0 bins from optimal solution)
BenMaier_Offline:	115 (0 bins from optimal solution)

N3C2W4\_G:

Oracle:	122
NextFit_Online:	160 (38 bins from optimal solution)
FirstFit_Online:	129 (7 bins from optimal solution)
BestFit_Online:	128 (6 bins from optimal solution)
WorstFit_Online:	136 (14 bins from optimal solution)
RefinedFirstFit_Online:	155 (33 bins from optimal solution)
NextFit_Offline:	156 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	122 (0 bins from optimal solution)
BestFitDecreasing_Offline:	122 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	122 (0 bins from optimal solution)
BenMaier_Offline:	122 (0 bins from optimal solution)

N3C2W4\_H:

Oracle:	113
NextFit_Online:	145 (32 bins from optimal solution)
FirstFit_Online:	120 (7 bins from optimal solution)
BestFit_Online:	119 (6 bins from optimal solution)
WorstFit_Online:	129 (16 bins from optimal solution)
RefinedFirstFit_Online:	147 (34 bins from optimal solution)
NextFit_Offline:	148 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BestFitDecreasing_Offline:	113 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	113 (0 bins from optimal solution)
BenMaier_Offline:	113 (0 bins from optimal solution)

N3C2W4\_I:

Oracle:	115
NextFit_Online:	149 (34 bins from optimal solution)
FirstFit_Online:	123 (8 bins from optimal solution)
BestFit_Online:	123 (8 bins from optimal solution)
WorstFit_Online:	130 (15 bins from optimal solution)
RefinedFirstFit_Online:	152 (37 bins from optimal solution)
NextFit_Offline:	153 (38 bins from optimal solution)
FirstFitDecreasing_Offline:	115 (0 bins from optimal solution)
BestFitDecreasing_Offline:	115 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	115 (0 bins from optimal solution)
BenMaier_Offline:	115 (0 bins from optimal solution)

N3C2W4\_J:

Oracle:	120
NextFit_Online:	155 (35 bins from optimal solution)
FirstFit_Online:	127 (7 bins from optimal solution)
BestFit_Online:	125 (5 bins from optimal solution)
WorstFit_Online:	134 (14 bins from optimal solution)
RefinedFirstFit_Online:	154 (34 bins from optimal solution)
NextFit_Offline:	154 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	120 (0 bins from optimal solution)
BestFitDecreasing_Offline:	120 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	120 (0 bins from optimal solution)
BenMaier_Offline:	120 (0 bins from optimal solution)

N3C2W4\_K:

Oracle:	117
NextFit_Online:	155 (38 bins from optimal solution)
FirstFit_Online:	124 (7 bins from optimal solution)
BestFit_Online:	123 (6 bins from optimal solution)
WorstFit_Online:	133 (16 bins from optimal solution)
RefinedFirstFit_Online:	149 (32 bins from optimal solution)
NextFit_Offline:	151 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BestFitDecreasing_Offline:	117 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BenMaier_Offline:	117 (0 bins from optimal solution)

N3C2W4\_L:

Oracle:	116
NextFit_Online:	154 (38 bins from optimal solution)
FirstFit_Online:	124 (8 bins from optimal solution)
BestFit_Online:	122 (6 bins from optimal solution)
WorstFit_Online:	132 (16 bins from optimal solution)
RefinedFirstFit_Online:	149 (33 bins from optimal solution)
NextFit_Offline:	150 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	116 (0 bins from optimal solution)
BestFitDecreasing_Offline:	116 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	116 (0 bins from optimal solution)
BenMaier_Offline:	116 (0 bins from optimal solution)

N3C2W4\_M:

Oracle:	120
NextFit_Online:	157 (37 bins from optimal solution)
FirstFit_Online:	126 (6 bins from optimal solution)
BestFit_Online:	125 (5 bins from optimal solution)
WorstFit_Online:	133 (13 bins from optimal solution)
RefinedFirstFit_Online:	153 (33 bins from optimal solution)
NextFit_Offline:	153 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	120 (0 bins from optimal solution)
BestFitDecreasing_Offline:	120 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	120 (0 bins from optimal solution)
BenMaier_Offline:	120 (0 bins from optimal solution)

N3C2W4\_N:

Oracle:	117
NextFit_Online:	151 (34 bins from optimal solution)
FirstFit_Online:	123 (6 bins from optimal solution)
BestFit_Online:	122 (5 bins from optimal solution)
WorstFit_Online:	132 (15 bins from optimal solution)
RefinedFirstFit_Online:	148 (31 bins from optimal solution)
NextFit_Offline:	149 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BestFitDecreasing_Offline:	117 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	117 (0 bins from optimal solution)
BenMaier_Offline:	117 (0 bins from optimal solution)

N3C2W4\_O:

Oracle:	113
NextFit_Online:	148 (35 bins from optimal solution)
FirstFit_Online:	120 (7 bins from optimal solution)
BestFit_Online:	119 (6 bins from optimal solution)
WorstFit_Online:	129 (16 bins from optimal solution)
RefinedFirstFit_Online:	144 (31 bins from optimal solution)
NextFit_Offline:	145 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	114 (1 bins from optimal solution)
BestFitDecreasing_Offline:	114 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	114 (1 bins from optimal solution)
BenMaier_Offline:	114 (1 bins from optimal solution)

N3C2W4\_P:

Oracle:	122
NextFit_Online:	159 (37 bins from optimal solution)
FirstFit_Online:	129 (7 bins from optimal solution)
BestFit_Online:	126 (4 bins from optimal solution)
WorstFit_Online:	136 (14 bins from optimal solution)
RefinedFirstFit_Online:	151 (29 bins from optimal solution)
NextFit_Offline:	151 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	122 (0 bins from optimal solution)
BestFitDecreasing_Offline:	122 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	122 (0 bins from optimal solution)
BenMaier_Offline:	122 (0 bins from optimal solution)

N3C2W4\_Q:

Oracle:	118
NextFit_Online:	157 (39 bins from optimal solution)
FirstFit_Online:	125 (7 bins from optimal solution)
BestFit_Online:	124 (6 bins from optimal solution)
WorstFit_Online:	133 (15 bins from optimal solution)
RefinedFirstFit_Online:	151 (33 bins from optimal solution)
NextFit_Offline:	153 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	118 (0 bins from optimal solution)
BestFitDecreasing_Offline:	118 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	118 (0 bins from optimal solution)
BenMaier_Offline:	118 (0 bins from optimal solution)

N3C2W4\_R:

Oracle:	123
NextFit_Online:	160 (37 bins from optimal solution)
FirstFit_Online:	131 (8 bins from optimal solution)
BestFit_Online:	129 (6 bins from optimal solution)
WorstFit_Online:	138 (15 bins from optimal solution)
RefinedFirstFit_Online:	154 (31 bins from optimal solution)
NextFit_Offline:	155 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	123 (0 bins from optimal solution)
BestFitDecreasing_Offline:	123 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	123 (0 bins from optimal solution)
BenMaier_Offline:	123 (0 bins from optimal solution)

N3C2W4\_S:

Oracle:	118
NextFit_Online:	155 (37 bins from optimal solution)
FirstFit_Online:	125 (7 bins from optimal solution)
BestFit_Online:	124 (6 bins from optimal solution)
WorstFit_Online:	133 (15 bins from optimal solution)
RefinedFirstFit_Online:	150 (32 bins from optimal solution)
NextFit_Offline:	151 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	118 (0 bins from optimal solution)
BestFitDecreasing_Offline:	118 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	118 (0 bins from optimal solution)
BenMaier_Offline:	118 (0 bins from optimal solution)

N3C2W4\_T:

Oracle:	119
NextFit_Online:	156 (37 bins from optimal solution)
FirstFit_Online:	126 (7 bins from optimal solution)
BestFit_Online:	125 (6 bins from optimal solution)
WorstFit_Online:	135 (16 bins from optimal solution)
RefinedFirstFit_Online:	151 (32 bins from optimal solution)
NextFit_Offline:	153 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	119 (0 bins from optimal solution)
BestFitDecreasing_Offline:	119 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	119 (0 bins from optimal solution)
BenMaier_Offline:	119 (0 bins from optimal solution)

N3C3W1\_A:

Oracle:	66
NextFit_Online:	85 (19 bins from optimal solution)
FirstFit_Online:	70 (4 bins from optimal solution)
BestFit_Online:	69 (3 bins from optimal solution)
WorstFit_Online:	77 (11 bins from optimal solution)
RefinedFirstFit_Online:	88 (22 bins from optimal solution)
NextFit_Offline:	91 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BestFitDecreasing_Offline:	66 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BenMaier_Offline:	66 (0 bins from optimal solution)

N3C3W1\_B:

Oracle:	71
NextFit_Online:	91 (20 bins from optimal solution)
FirstFit_Online:	75 (4 bins from optimal solution)
BestFit_Online:	75 (4 bins from optimal solution)
WorstFit_Online:	82 (11 bins from optimal solution)
RefinedFirstFit_Online:	96 (25 bins from optimal solution)
NextFit_Offline:	98 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BestFitDecreasing_Offline:	71 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	72 (1 bins from optimal solution)
BenMaier_Offline:	71 (0 bins from optimal solution)

N3C3W1\_C:

Oracle:	69
NextFit_Online:	89 (20 bins from optimal solution)
FirstFit_Online:	73 (4 bins from optimal solution)
BestFit_Online:	72 (3 bins from optimal solution)
WorstFit_Online:	79 (10 bins from optimal solution)
RefinedFirstFit_Online:	95 (26 bins from optimal solution)
NextFit_Offline:	98 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BestFitDecreasing_Offline:	69 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (1 bins from optimal solution)
BenMaier_Offline:	69 (0 bins from optimal solution)

N3C3W1\_D:

Oracle:	63
NextFit_Online:	80 (17 bins from optimal solution)
FirstFit_Online:	66 (3 bins from optimal solution)
BestFit_Online:	66 (3 bins from optimal solution)
WorstFit_Online:	73 (10 bins from optimal solution)
RefinedFirstFit_Online:	87 (24 bins from optimal solution)
NextFit_Offline:	88 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	63 (0 bins from optimal solution)
BestFitDecreasing_Offline:	63 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	64 (1 bins from optimal solution)
BenMaier_Offline:	63 (0 bins from optimal solution)

N3C3W1\_E:

Oracle:	68
NextFit_Online:	88 (20 bins from optimal solution)
FirstFit_Online:	73 (5 bins from optimal solution)
BestFit_Online:	72 (4 bins from optimal solution)
WorstFit_Online:	80 (12 bins from optimal solution)
RefinedFirstFit_Online:	94 (26 bins from optimal solution)
NextFit_Offline:	96 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (1 bins from optimal solution)
BestFitDecreasing_Offline:	69 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (2 bins from optimal solution)
BenMaier_Offline:	69 (1 bins from optimal solution)

N3C3W1\_F:

Oracle:	69
NextFit_Online:	89 (20 bins from optimal solution)
FirstFit_Online:	73 (4 bins from optimal solution)
BestFit_Online:	72 (3 bins from optimal solution)
WorstFit_Online:	78 (9 bins from optimal solution)
RefinedFirstFit_Online:	92 (23 bins from optimal solution)
NextFit_Offline:	94 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BestFitDecreasing_Offline:	69 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BenMaier_Offline:	69 (0 bins from optimal solution)

N3C3W1\_G:

Oracle:	65
NextFit_Online:	82 (17 bins from optimal solution)
FirstFit_Online:	67 (2 bins from optimal solution)
BestFit_Online:	67 (2 bins from optimal solution)
WorstFit_Online:	76 (11 bins from optimal solution)
RefinedFirstFit_Online:	86 (21 bins from optimal solution)
NextFit_Offline:	88 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N3C3W1\_H:

Oracle:	69
NextFit_Online:	87 (18 bins from optimal solution)
FirstFit_Online:	73 (4 bins from optimal solution)
BestFit_Online:	72 (3 bins from optimal solution)
WorstFit_Online:	79 (10 bins from optimal solution)
RefinedFirstFit_Online:	94 (25 bins from optimal solution)
NextFit_Offline:	97 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BestFitDecreasing_Offline:	69 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BenMaier_Offline:	69 (0 bins from optimal solution)

N3C3W1\_I:

Oracle:	68
NextFit_Online:	89 (21 bins from optimal solution)
FirstFit_Online:	73 (5 bins from optimal solution)
BestFit_Online:	72 (4 bins from optimal solution)
WorstFit_Online:	80 (12 bins from optimal solution)
RefinedFirstFit_Online:	93 (25 bins from optimal solution)
NextFit_Offline:	95 (27 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (1 bins from optimal solution)
BestFitDecreasing_Offline:	69 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	69 (1 bins from optimal solution)
BenMaier_Offline:	69 (1 bins from optimal solution)

N3C3W1\_J:

Oracle:	65
NextFit_Online:	82 (17 bins from optimal solution)
FirstFit_Online:	68 (3 bins from optimal solution)
BestFit_Online:	67 (2 bins from optimal solution)
WorstFit_Online:	76 (11 bins from optimal solution)
RefinedFirstFit_Online:	88 (23 bins from optimal solution)
NextFit_Offline:	90 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BestFitDecreasing_Offline:	65 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	65 (0 bins from optimal solution)
BenMaier_Offline:	65 (0 bins from optimal solution)

N3C3W1\_K:

Oracle:	63
NextFit_Online:	81 (18 bins from optimal solution)
FirstFit_Online:	67 (4 bins from optimal solution)
BestFit_Online:	67 (4 bins from optimal solution)
WorstFit_Online:	74 (11 bins from optimal solution)
RefinedFirstFit_Online:	85 (22 bins from optimal solution)
NextFit_Offline:	87 (24 bins from optimal solution)
FirstFitDecreasing_Offline:	63 (0 bins from optimal solution)
BestFitDecreasing_Offline:	63 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	64 (1 bins from optimal solution)
BenMaier_Offline:	63 (0 bins from optimal solution)

N3C3W1\_L:

Oracle:	68
NextFit_Online:	86 (18 bins from optimal solution)
FirstFit_Online:	71 (3 bins from optimal solution)
BestFit_Online:	71 (3 bins from optimal solution)
WorstFit_Online:	77 (9 bins from optimal solution)
RefinedFirstFit_Online:	94 (26 bins from optimal solution)
NextFit_Offline:	97 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BestFitDecreasing_Offline:	68 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	69 (1 bins from optimal solution)
BenMaier_Offline:	68 (0 bins from optimal solution)

N3C3W1\_M:

Oracle:	71
NextFit_Online:	90 (19 bins from optimal solution)
FirstFit_Online:	76 (5 bins from optimal solution)
BestFit_Online:	76 (5 bins from optimal solution)
WorstFit_Online:	83 (12 bins from optimal solution)
RefinedFirstFit_Online:	99 (28 bins from optimal solution)
NextFit_Offline:	101 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	71 (0 bins from optimal solution)
BestFitDecreasing_Offline:	71 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (2 bins from optimal solution)
BenMaier_Offline:	71 (0 bins from optimal solution)

N3C3W1\_N:

Oracle:	69
NextFit_Online:	88 (19 bins from optimal solution)
FirstFit_Online:	74 (5 bins from optimal solution)
BestFit_Online:	73 (4 bins from optimal solution)
WorstFit_Online:	79 (10 bins from optimal solution)
RefinedFirstFit_Online:	94 (25 bins from optimal solution)
NextFit_Offline:	97 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	69 (0 bins from optimal solution)
BestFitDecreasing_Offline:	69 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (1 bins from optimal solution)
BenMaier_Offline:	69 (0 bins from optimal solution)

N3C3W1\_O:

Oracle:	66
NextFit_Online:	84 (18 bins from optimal solution)
FirstFit_Online:	69 (3 bins from optimal solution)
BestFit_Online:	69 (3 bins from optimal solution)
WorstFit_Online:	76 (10 bins from optimal solution)
RefinedFirstFit_Online:	89 (23 bins from optimal solution)
NextFit_Offline:	92 (26 bins from optimal solution)
FirstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BestFitDecreasing_Offline:	66 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (1 bins from optimal solution)
BenMaier_Offline:	66 (0 bins from optimal solution)

N3C3W1\_P:

Oracle:	72
NextFit_Online:	92 (20 bins from optimal solution)
FirstFit_Online:	78 (6 bins from optimal solution)
BestFit_Online:	76 (4 bins from optimal solution)
WorstFit_Online:	87 (15 bins from optimal solution)
RefinedFirstFit_Online:	100 (28 bins from optimal solution)
NextFit_Offline:	102 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	72 (0 bins from optimal solution)
BestFitDecreasing_Offline:	72 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	73 (1 bins from optimal solution)
BenMaier_Offline:	72 (0 bins from optimal solution)

N3C3W1\_Q:

Oracle:	73
NextFit_Online:	92 (19 bins from optimal solution)
FirstFit_Online:	78 (5 bins from optimal solution)
BestFit_Online:	78 (5 bins from optimal solution)
WorstFit_Online:	84 (11 bins from optimal solution)
RefinedFirstFit_Online:	100 (27 bins from optimal solution)
NextFit_Offline:	103 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	73 (0 bins from optimal solution)
BestFitDecreasing_Offline:	73 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	74 (1 bins from optimal solution)
BenMaier_Offline:	73 (0 bins from optimal solution)



N3C3W1\_R:

Oracle:	66
NextFit_Online:	86 (20 bins from optimal solution)
FirstFit_Online:	70 (4 bins from optimal solution)
BestFit_Online:	70 (4 bins from optimal solution)
WorstFit_Online:	77 (11 bins from optimal solution)
RefinedFirstFit_Online:	89 (23 bins from optimal solution)
NextFit_Offline:	91 (25 bins from optimal solution)
FirstFitDecreasing_Offline:	66 (0 bins from optimal solution)
BestFitDecreasing_Offline:	66 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	67 (1 bins from optimal solution)
BenMaier_Offline:	66 (0 bins from optimal solution)

N3C3W1\_S:

Oracle:	68
NextFit_Online:	87 (19 bins from optimal solution)
FirstFit_Online:	72 (4 bins from optimal solution)
BestFit_Online:	71 (3 bins from optimal solution)
WorstFit_Online:	78 (10 bins from optimal solution)
RefinedFirstFit_Online:	89 (21 bins from optimal solution)
NextFit_Offline:	91 (23 bins from optimal solution)
FirstFitDecreasing_Offline:	68 (0 bins from optimal solution)
BestFitDecreasing_Offline:	68 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	69 (1 bins from optimal solution)
BenMaier_Offline:	68 (0 bins from optimal solution)

N3C3W1\_T:

Oracle:	70
NextFit_Online:	89 (19 bins from optimal solution)
FirstFit_Online:	74 (4 bins from optimal solution)
BestFit_Online:	73 (3 bins from optimal solution)
WorstFit_Online:	80 (10 bins from optimal solution)
RefinedFirstFit_Online:	95 (25 bins from optimal solution)
NextFit_Offline:	98 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BestFitDecreasing_Offline:	70 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	70 (0 bins from optimal solution)
BenMaier_Offline:	70 (0 bins from optimal solution)

N3C3W2\_A:

Oracle:	84
NextFit_Online:	111 (27 bins from optimal solution)
FirstFit_Online:	91 (7 bins from optimal solution)
BestFit_Online:	91 (7 bins from optimal solution)
WorstFit_Online:	97 (13 bins from optimal solution)
RefinedFirstFit_Online:	114 (30 bins from optimal solution)
NextFit_Offline:	116 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	85 (1 bins from optimal solution)
BestFitDecreasing_Offline:	85 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	85 (1 bins from optimal solution)
BenMaier_Offline:	85 (1 bins from optimal solution)

N3C3W2\_B:

Oracle:	81
NextFit_Online:	104 (23 bins from optimal solution)
FirstFit_Online:	88 (7 bins from optimal solution)
BestFit_Online:	87 (6 bins from optimal solution)
WorstFit_Online:	94 (13 bins from optimal solution)
RefinedFirstFit_Online:	111 (30 bins from optimal solution)
NextFit_Offline:	113 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (2 bins from optimal solution)
BestFitDecreasing_Offline:	83 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	83 (2 bins from optimal solution)
BenMaier_Offline:	83 (2 bins from optimal solution)

N3C3W2\_C:

Oracle:	82
NextFit_Online:	106 (24 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	89 (7 bins from optimal solution)
WorstFit_Online:	95 (13 bins from optimal solution)
RefinedFirstFit_Online:	114 (32 bins from optimal solution)
NextFit_Offline:	116 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (2 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C3W2\_D:

Oracle:	79
NextFit_Online:	100 (21 bins from optimal solution)
FirstFit_Online:	85 (6 bins from optimal solution)
BestFit_Online:	84 (5 bins from optimal solution)
WorstFit_Online:	92 (13 bins from optimal solution)
RefinedFirstFit_Online:	107 (28 bins from optimal solution)
NextFit_Offline:	110 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BestFitDecreasing_Offline:	80 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BenMaier_Offline:	80 (1 bins from optimal solution)

N3C3W2\_E:

Oracle:	79
NextFit_Online:	99 (20 bins from optimal solution)
FirstFit_Online:	85 (6 bins from optimal solution)
BestFit_Online:	84 (5 bins from optimal solution)
WorstFit_Online:	91 (12 bins from optimal solution)
RefinedFirstFit_Online:	105 (26 bins from optimal solution)
NextFit_Offline:	109 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BestFitDecreasing_Offline:	80 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BenMaier_Offline:	80 (1 bins from optimal solution)

N3C3W2\_F:

Oracle:	81
NextFit_Online:	105 (24 bins from optimal solution)
FirstFit_Online:	89 (8 bins from optimal solution)
BestFit_Online:	88 (7 bins from optimal solution)
WorstFit_Online:	94 (13 bins from optimal solution)
RefinedFirstFit_Online:	112 (31 bins from optimal solution)
NextFit_Offline:	114 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (2 bins from optimal solution)
BestFitDecreasing_Offline:	83 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (3 bins from optimal solution)
BenMaier_Offline:	83 (2 bins from optimal solution)

N3C3W2\_G:

Oracle:	81
NextFit_Online:	103 (22 bins from optimal solution)
FirstFit_Online:	87 (6 bins from optimal solution)
BestFit_Online:	87 (6 bins from optimal solution)
WorstFit_Online:	94 (13 bins from optimal solution)
RefinedFirstFit_Online:	110 (29 bins from optimal solution)
NextFit_Offline:	112 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	82 (1 bins from optimal solution)
BestFitDecreasing_Offline:	82 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	82 (1 bins from optimal solution)
BenMaier_Offline:	82 (1 bins from optimal solution)

N3C3W2\_H:

Oracle:	82
NextFit_Online:	108 (26 bins from optimal solution)
FirstFit_Online:	91 (9 bins from optimal solution)
BestFit_Online:	89 (7 bins from optimal solution)
WorstFit_Online:	95 (13 bins from optimal solution)
RefinedFirstFit_Online:	114 (32 bins from optimal solution)
NextFit_Offline:	116 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (2 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C3W2\_I:

Oracle:	79
NextFit_Online:	100 (21 bins from optimal solution)
FirstFit_Online:	85 (6 bins from optimal solution)
BestFit_Online:	85 (6 bins from optimal solution)
WorstFit_Online:	91 (12 bins from optimal solution)
RefinedFirstFit_Online:	108 (29 bins from optimal solution)
NextFit_Offline:	110 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BestFitDecreasing_Offline:	80 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	81 (2 bins from optimal solution)
BenMaier_Offline:	80 (1 bins from optimal solution)

N3C3W2\_J:

Oracle:	83
NextFit_Online:	110 (27 bins from optimal solution)
FirstFit_Online:	91 (8 bins from optimal solution)
BestFit_Online:	90 (7 bins from optimal solution)
WorstFit_Online:	96 (13 bins from optimal solution)
RefinedFirstFit_Online:	114 (31 bins from optimal solution)
NextFit_Offline:	116 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	84 (1 bins from optimal solution)
BestFitDecreasing_Offline:	84 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (1 bins from optimal solution)
BenMaier_Offline:	84 (1 bins from optimal solution)

N3C3W2\_K:

Oracle:	83
NextFit_Online:	111 (28 bins from optimal solution)
FirstFit_Online:	91 (8 bins from optimal solution)
BestFit_Online:	90 (7 bins from optimal solution)
WorstFit_Online:	96 (13 bins from optimal solution)
RefinedFirstFit_Online:	117 (34 bins from optimal solution)
NextFit_Offline:	119 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	84 (1 bins from optimal solution)
BestFitDecreasing_Offline:	84 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	87 (4 bins from optimal solution)
BenMaier_Offline:	84 (1 bins from optimal solution)

N3C3W2\_L:

Oracle:	82
NextFit_Online:	105 (23 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	88 (6 bins from optimal solution)
WorstFit_Online:	94 (12 bins from optimal solution)
RefinedFirstFit_Online:	111 (29 bins from optimal solution)
NextFit_Offline:	114 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C3W2\_M:

Oracle:	83
NextFit_Online:	109 (26 bins from optimal solution)
FirstFit_Online:	91 (8 bins from optimal solution)
BestFit_Online:	91 (8 bins from optimal solution)
WorstFit_Online:	96 (13 bins from optimal solution)
RefinedFirstFit_Online:	115 (32 bins from optimal solution)
NextFit_Offline:	117 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	85 (2 bins from optimal solution)
BestFitDecreasing_Offline:	85 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	85 (2 bins from optimal solution)
BenMaier_Offline:	85 (2 bins from optimal solution)

N3C3W2\_N:

Oracle:	77
NextFit_Online:	98 (21 bins from optimal solution)
FirstFit_Online:	83 (6 bins from optimal solution)
BestFit_Online:	82 (5 bins from optimal solution)
WorstFit_Online:	88 (11 bins from optimal solution)
RefinedFirstFit_Online:	102 (25 bins from optimal solution)
NextFit_Offline:	105 (28 bins from optimal solution)
FirstFitDecreasing_Offline:	78 (1 bins from optimal solution)
BestFitDecreasing_Offline:	78 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	78 (1 bins from optimal solution)
BenMaier_Offline:	78 (1 bins from optimal solution)

N3C3W2\_O:

Oracle:	82
NextFit_Online:	108 (26 bins from optimal solution)
FirstFit_Online:	89 (7 bins from optimal solution)
BestFit_Online:	90 (8 bins from optimal solution)
WorstFit_Online:	95 (13 bins from optimal solution)
RefinedFirstFit_Online:	116 (34 bins from optimal solution)
NextFit_Offline:	119 (37 bins from optimal solution)
FirstFitDecreasing_Offline:	83 (1 bins from optimal solution)
BestFitDecreasing_Offline:	83 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	84 (2 bins from optimal solution)
BenMaier_Offline:	83 (1 bins from optimal solution)

N3C3W2\_P:

Oracle:	80
NextFit_Online:	103 (23 bins from optimal solution)
FirstFit_Online:	87 (7 bins from optimal solution)
BestFit_Online:	86 (6 bins from optimal solution)
WorstFit_Online:	93 (13 bins from optimal solution)
RefinedFirstFit_Online:	109 (29 bins from optimal solution)
NextFit_Offline:	110 (30 bins from optimal solution)
FirstFitDecreasing_Offline:	82 (2 bins from optimal solution)
BestFitDecreasing_Offline:	82 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	82 (2 bins from optimal solution)
BenMaier_Offline:	82 (2 bins from optimal solution)

N3C3W2\_Q:

Oracle:	76
NextFit_Online:	97 (21 bins from optimal solution)
FirstFit_Online:	82 (6 bins from optimal solution)
BestFit_Online:	81 (5 bins from optimal solution)
WorstFit_Online:	87 (11 bins from optimal solution)
RefinedFirstFit_Online:	103 (27 bins from optimal solution)
NextFit_Offline:	105 (29 bins from optimal solution)
FirstFitDecreasing_Offline:	77 (1 bins from optimal solution)
BestFitDecreasing_Offline:	77 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	78 (2 bins from optimal solution)
BenMaier_Offline:	77 (1 bins from optimal solution)

N3C3W2\_R:

Oracle:	79
NextFit_Online:	100 (21 bins from optimal solution)
FirstFit_Online:	86 (7 bins from optimal solution)
BestFit_Online:	86 (7 bins from optimal solution)
WorstFit_Online:	91 (12 bins from optimal solution)
RefinedFirstFit_Online:	108 (29 bins from optimal solution)
NextFit_Offline:	111 (32 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BestFitDecreasing_Offline:	80 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BenMaier_Offline:	80 (1 bins from optimal solution)

N3C3W2\_S:

Oracle:	80
NextFit_Online:	102 (22 bins from optimal solution)
FirstFit_Online:	86 (6 bins from optimal solution)
BestFit_Online:	87 (7 bins from optimal solution)
WorstFit_Online:	92 (12 bins from optimal solution)
RefinedFirstFit_Online:	112 (32 bins from optimal solution)
NextFit_Offline:	113 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	81 (1 bins from optimal solution)
BestFitDecreasing_Offline:	81 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	82 (2 bins from optimal solution)
BenMaier_Offline:	81 (1 bins from optimal solution)

N3C3W2\_T:

Oracle:	79
NextFit_Online:	101 (22 bins from optimal solution)
FirstFit_Online:	85 (6 bins from optimal solution)
BestFit_Online:	84 (5 bins from optimal solution)
WorstFit_Online:	90 (11 bins from optimal solution)
RefinedFirstFit_Online:	110 (31 bins from optimal solution)
NextFit_Offline:	112 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	80 (1 bins from optimal solution)
BestFitDecreasing_Offline:	80 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	82 (3 bins from optimal solution)
BenMaier_Offline:	80 (1 bins from optimal solution)

N3C3W4\_A:

Oracle:	89
NextFit_Online:	115 (26 bins from optimal solution)
FirstFit_Online:	98 (9 bins from optimal solution)
BestFit_Online:	98 (9 bins from optimal solution)
WorstFit_Online:	101 (12 bins from optimal solution)
RefinedFirstFit_Online:	125 (36 bins from optimal solution)
NextFit_Offline:	128 (39 bins from optimal solution)
FirstFitDecreasing_Offline:	91 (2 bins from optimal solution)
BestFitDecreasing_Offline:	91 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	91 (2 bins from optimal solution)
BenMaier_Offline:	91 (2 bins from optimal solution)

N3C3W4\_B:

Oracle:	88
NextFit_Online:	112 (24 bins from optimal solution)
FirstFit_Online:	96 (8 bins from optimal solution)
BestFit_Online:	96 (8 bins from optimal solution)
WorstFit_Online:	99 (11 bins from optimal solution)
RefinedFirstFit_Online:	122 (34 bins from optimal solution)
NextFit_Offline:	123 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (1 bins from optimal solution)
BestFitDecreasing_Offline:	89 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (1 bins from optimal solution)
BenMaier_Offline:	89 (1 bins from optimal solution)

N3C3W4\_C:

Oracle:	88
NextFit_Online:	113 (25 bins from optimal solution)
FirstFit_Online:	97 (9 bins from optimal solution)
BestFit_Online:	96 (8 bins from optimal solution)
WorstFit_Online:	101 (13 bins from optimal solution)
RefinedFirstFit_Online:	122 (34 bins from optimal solution)
NextFit_Offline:	124 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BestFitDecreasing_Offline:	90 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BenMaier_Offline:	90 (2 bins from optimal solution)

N3C3W4\_D:

Oracle:	87
NextFit_Online:	113 (26 bins from optimal solution)
FirstFit_Online:	96 (9 bins from optimal solution)
BestFit_Online:	95 (8 bins from optimal solution)
WorstFit_Online:	100 (13 bins from optimal solution)
RefinedFirstFit_Online:	120 (33 bins from optimal solution)
NextFit_Offline:	123 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BestFitDecreasing_Offline:	89 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BenMaier_Offline:	89 (2 bins from optimal solution)

N3C3W4\_E:

Oracle:	85
NextFit_Online:	109 (24 bins from optimal solution)
FirstFit_Online:	94 (9 bins from optimal solution)
BestFit_Online:	93 (8 bins from optimal solution)
WorstFit_Online:	97 (12 bins from optimal solution)
RefinedFirstFit_Online:	117 (32 bins from optimal solution)
NextFit_Offline:	119 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	87 (2 bins from optimal solution)
BestFitDecreasing_Offline:	87 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	87 (2 bins from optimal solution)
BenMaier_Offline:	87 (2 bins from optimal solution)

N3C3W4\_F:

Oracle:	84
NextFit_Online:	108 (24 bins from optimal solution)
FirstFit_Online:	93 (9 bins from optimal solution)
BestFit_Online:	92 (8 bins from optimal solution)
WorstFit_Online:	95 (11 bins from optimal solution)
RefinedFirstFit_Online:	116 (32 bins from optimal solution)
NextFit_Offline:	118 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BestFitDecreasing_Offline:	86 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BenMaier_Offline:	86 (2 bins from optimal solution)

N3C3W4\_G:

Oracle:	94
NextFit_Online:	122 (28 bins from optimal solution)
FirstFit_Online:	101 (7 bins from optimal solution)
BestFit_Online:	100 (6 bins from optimal solution)
WorstFit_Online:	109 (15 bins from optimal solution)
RefinedFirstFit_Online:	134 (40 bins from optimal solution)
NextFit_Offline:	135 (41 bins from optimal solution)
FirstFitDecreasing_Offline:	95 (1 bins from optimal solution)
BestFitDecreasing_Offline:	95 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	95 (1 bins from optimal solution)
BenMaier_Offline:	95 (1 bins from optimal solution)

N3C3W4\_H:

Oracle:	84
NextFit_Online:	107 (23 bins from optimal solution)
FirstFit_Online:	92 (8 bins from optimal solution)
BestFit_Online:	92 (8 bins from optimal solution)
WorstFit_Online:	96 (12 bins from optimal solution)
RefinedFirstFit_Online:	116 (32 bins from optimal solution)
NextFit_Offline:	119 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BestFitDecreasing_Offline:	86 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BenMaier_Offline:	86 (2 bins from optimal solution)

N3C3W4\_I:

Oracle:	92
NextFit_Online:	120 (28 bins from optimal solution)
FirstFit_Online:	98 (6 bins from optimal solution)
BestFit_Online:	99 (7 bins from optimal solution)
WorstFit_Online:	105 (13 bins from optimal solution)
RefinedFirstFit_Online:	130 (38 bins from optimal solution)
NextFit_Offline:	131 (39 bins from optimal solution)
FirstFitDecreasing_Offline:	93 (1 bins from optimal solution)
BestFitDecreasing_Offline:	93 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	93 (1 bins from optimal solution)
BenMaier_Offline:	93 (1 bins from optimal solution)



N3C3W4\_J:

Oracle:	88
NextFit_Online:	114 (26 bins from optimal solution)
FirstFit_Online:	96 (8 bins from optimal solution)
BestFit_Online:	96 (8 bins from optimal solution)
WorstFit_Online:	101 (13 bins from optimal solution)
RefinedFirstFit_Online:	123 (35 bins from optimal solution)
NextFit_Offline:	125 (37 bins from optimal solution)
FirstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BestFitDecreasing_Offline:	90 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BenMaier_Offline:	90 (2 bins from optimal solution)

N3C3W4\_K:

Oracle:	89
NextFit_Online:	113 (24 bins from optimal solution)
FirstFit_Online:	98 (9 bins from optimal solution)
BestFit_Online:	98 (9 bins from optimal solution)
WorstFit_Online:	101 (12 bins from optimal solution)
RefinedFirstFit_Online:	123 (34 bins from optimal solution)
NextFit_Offline:	124 (35 bins from optimal solution)
FirstFitDecreasing_Offline:	90 (1 bins from optimal solution)
BestFitDecreasing_Offline:	90 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (1 bins from optimal solution)
BenMaier_Offline:	90 (1 bins from optimal solution)

N3C3W4\_L:

Oracle:	90
NextFit_Online:	115 (25 bins from optimal solution)
FirstFit_Online:	97 (7 bins from optimal solution)
BestFit_Online:	98 (8 bins from optimal solution)
WorstFit_Online:	101 (11 bins from optimal solution)
RefinedFirstFit_Online:	126 (36 bins from optimal solution)
NextFit_Offline:	128 (38 bins from optimal solution)
FirstFitDecreasing_Offline:	92 (2 bins from optimal solution)
BestFitDecreasing_Offline:	92 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	92 (2 bins from optimal solution)
BenMaier_Offline:	92 (2 bins from optimal solution)

N3C3W4\_M:

Oracle:	88
NextFit_Online:	115 (27 bins from optimal solution)
FirstFit_Online:	96 (8 bins from optimal solution)
BestFit_Online:	96 (8 bins from optimal solution)
WorstFit_Online:	100 (12 bins from optimal solution)
RefinedFirstFit_Online:	123 (35 bins from optimal solution)
NextFit_Offline:	126 (38 bins from optimal solution)
FirstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BestFitDecreasing_Offline:	90 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	90 (2 bins from optimal solution)
BenMaier_Offline:	90 (2 bins from optimal solution)

N3C3W4\_N:

Oracle:	87
NextFit_Online:	112 (25 bins from optimal solution)
FirstFit_Online:	96 (9 bins from optimal solution)
BestFit_Online:	96 (9 bins from optimal solution)
WorstFit_Online:	99 (12 bins from optimal solution)
RefinedFirstFit_Online:	120 (33 bins from optimal solution)
NextFit_Offline:	121 (34 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BestFitDecreasing_Offline:	89 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BenMaier_Offline:	89 (2 bins from optimal solution)

N3C3W4\_O:

Oracle:	87
NextFit_Online:	113 (26 bins from optimal solution)
FirstFit_Online:	95 (8 bins from optimal solution)
BestFit_Online:	95 (8 bins from optimal solution)
WorstFit_Online:	101 (14 bins from optimal solution)
RefinedFirstFit_Online:	120 (33 bins from optimal solution)
NextFit_Offline:	124 (37 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BestFitDecreasing_Offline:	89 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BenMaier_Offline:	89 (2 bins from optimal solution)

N3C3W4\_P:

Oracle:	86
NextFit_Online:	111 (25 bins from optimal solution)
FirstFit_Online:	93 (7 bins from optimal solution)
BestFit_Online:	94 (8 bins from optimal solution)
WorstFit_Online:	97 (11 bins from optimal solution)
RefinedFirstFit_Online:	116 (30 bins from optimal solution)
NextFit_Offline:	119 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	88 (2 bins from optimal solution)
BestFitDecreasing_Offline:	88 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	88 (2 bins from optimal solution)
BenMaier_Offline:	88 (2 bins from optimal solution)

N3C3W4\_Q:

Oracle:	87
NextFit_Online:	111 (24 bins from optimal solution)
FirstFit_Online:	96 (9 bins from optimal solution)
BestFit_Online:	96 (9 bins from optimal solution)
WorstFit_Online:	100 (13 bins from optimal solution)
RefinedFirstFit_Online:	122 (35 bins from optimal solution)
NextFit_Offline:	123 (36 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BestFitDecreasing_Offline:	89 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BenMaier_Offline:	89 (2 bins from optimal solution)

N3C3W4\_R:

Oracle:	87
NextFit_Online:	113 (26 bins from optimal solution)
FirstFit_Online:	97 (10 bins from optimal solution)
BestFit_Online:	96 (9 bins from optimal solution)
WorstFit_Online:	100 (13 bins from optimal solution)
RefinedFirstFit_Online:	122 (35 bins from optimal solution)
NextFit_Offline:	125 (38 bins from optimal solution)
FirstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BestFitDecreasing_Offline:	89 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	89 (2 bins from optimal solution)
BenMaier_Offline:	89 (2 bins from optimal solution)

N3C3W4\_S:

Oracle:	84
NextFit_Online:	104 (20 bins from optimal solution)
FirstFit_Online:	91 (7 bins from optimal solution)
BestFit_Online:	91 (7 bins from optimal solution)
WorstFit_Online:	95 (11 bins from optimal solution)
RefinedFirstFit_Online:	114 (30 bins from optimal solution)
NextFit_Offline:	115 (31 bins from optimal solution)
FirstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BestFitDecreasing_Offline:	86 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	86 (2 bins from optimal solution)
BenMaier_Offline:	86 (2 bins from optimal solution)

N3C3W4\_T:

Oracle:	85
NextFit_Online:	108 (23 bins from optimal solution)
FirstFit_Online:	94 (9 bins from optimal solution)
BestFit_Online:	92 (7 bins from optimal solution)
WorstFit_Online:	96 (11 bins from optimal solution)
RefinedFirstFit_Online:	116 (31 bins from optimal solution)
NextFit_Offline:	118 (33 bins from optimal solution)
FirstFitDecreasing_Offline:	86 (1 bins from optimal solution)
BestFitDecreasing_Offline:	86 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	86 (1 bins from optimal solution)
BenMaier_Offline:	86 (1 bins from optimal solution)

N4C1W1\_A:

Oracle:	240
NextFit_Online:	315 (75 bins from optimal solution)
FirstFit_Online:	250 (10 bins from optimal solution)
BestFit_Online:	248 (8 bins from optimal solution)
WorstFit_Online:	276 (36 bins from optimal solution)
RefinedFirstFit_Online:	302 (62 bins from optimal solution)
NextFit_Offline:	307 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	241 (1 bins from optimal solution)
BestFitDecreasing_Offline:	241 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	241 (1 bins from optimal solution)
BenMaier_Offline:	241 (1 bins from optimal solution)

N4C1W1\_B:

Oracle:	262
NextFit_Online:	343 (81 bins from optimal solution)
FirstFit_Online:	272 (10 bins from optimal solution)
BestFit_Online:	267 (5 bins from optimal solution)
WorstFit_Online:	305 (43 bins from optimal solution)
RefinedFirstFit_Online:	325 (63 bins from optimal solution)
NextFit_Offline:	331 (69 bins from optimal solution)
FirstFitDecreasing_Offline:	262 (0 bins from optimal solution)
BestFitDecreasing_Offline:	262 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	262 (0 bins from optimal solution)
BenMaier_Offline:	262 (0 bins from optimal solution)

N4C1W1\_C:

Oracle:	241
NextFit_Online:	315 (74 bins from optimal solution)
FirstFit_Online:	250 (9 bins from optimal solution)
BestFit_Online:	248 (7 bins from optimal solution)
WorstFit_Online:	275 (34 bins from optimal solution)
RefinedFirstFit_Online:	302 (61 bins from optimal solution)
NextFit_Offline:	307 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	242 (1 bins from optimal solution)
BestFitDecreasing_Offline:	242 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	242 (1 bins from optimal solution)
BenMaier_Offline:	242 (1 bins from optimal solution)

N4C1W1\_D:

Oracle:	246
NextFit_Online:	320 (74 bins from optimal solution)
FirstFit_Online:	257 (11 bins from optimal solution)
BestFit_Online:	255 (9 bins from optimal solution)
WorstFit_Online:	280 (34 bins from optimal solution)
RefinedFirstFit_Online:	304 (58 bins from optimal solution)
NextFit_Offline:	308 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	247 (1 bins from optimal solution)
BestFitDecreasing_Offline:	247 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	247 (1 bins from optimal solution)
BenMaier_Offline:	247 (1 bins from optimal solution)

N4C1W1\_E:

Oracle:	272
NextFit_Online:	346 (74 bins from optimal solution)
FirstFit_Online:	276 (4 bins from optimal solution)
BestFit_Online:	273 (1 bins from optimal solution)
WorstFit_Online:	309 (37 bins from optimal solution)
RefinedFirstFit_Online:	331 (59 bins from optimal solution)
NextFit_Offline:	334 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	272 (0 bins from optimal solution)
BestFitDecreasing_Offline:	272 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	272 (0 bins from optimal solution)
BenMaier_Offline:	272 (0 bins from optimal solution)

N4C1W1\_F:

Oracle:	265
NextFit_Online:	349 (84 bins from optimal solution)
FirstFit_Online:	275 (10 bins from optimal solution)
BestFit_Online:	272 (7 bins from optimal solution)
WorstFit_Online:	306 (41 bins from optimal solution)
RefinedFirstFit_Online:	328 (63 bins from optimal solution)
NextFit_Offline:	333 (68 bins from optimal solution)
FirstFitDecreasing_Offline:	265 (0 bins from optimal solution)
BestFitDecreasing_Offline:	265 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	265 (0 bins from optimal solution)
BenMaier_Offline:	265 (0 bins from optimal solution)

N4C1W1\_G:

Oracle:	259
NextFit_Online:	335 (76 bins from optimal solution)
FirstFit_Online:	269 (10 bins from optimal solution)
BestFit_Online:	265 (6 bins from optimal solution)
WorstFit_Online:	300 (41 bins from optimal solution)
RefinedFirstFit_Online:	319 (60 bins from optimal solution)
NextFit_Offline:	324 (65 bins from optimal solution)
FirstFitDecreasing_Offline:	259 (0 bins from optimal solution)
BestFitDecreasing_Offline:	259 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	259 (0 bins from optimal solution)
BenMaier_Offline:	259 (0 bins from optimal solution)

N4C1W1\_H:

Oracle:	251
NextFit_Online:	329 (78 bins from optimal solution)
FirstFit_Online:	261 (10 bins from optimal solution)
BestFit_Online:	257 (6 bins from optimal solution)
WorstFit_Online:	290 (39 bins from optimal solution)
RefinedFirstFit_Online:	317 (66 bins from optimal solution)
NextFit_Offline:	321 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	251 (0 bins from optimal solution)
BestFitDecreasing_Offline:	251 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	252 (1 bins from optimal solution)
BenMaier_Offline:	251 (0 bins from optimal solution)

N4C1W1\_I:

Oracle:	262
NextFit_Online:	338 (76 bins from optimal solution)
FirstFit_Online:	271 (9 bins from optimal solution)
BestFit_Online:	268 (6 bins from optimal solution)
WorstFit_Online:	301 (39 bins from optimal solution)
RefinedFirstFit_Online:	321 (59 bins from optimal solution)
NextFit_Offline:	326 (64 bins from optimal solution)
FirstFitDecreasing_Offline:	263 (1 bins from optimal solution)
BestFitDecreasing_Offline:	263 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	263 (1 bins from optimal solution)
BenMaier_Offline:	263 (1 bins from optimal solution)

N4C1W1\_J:

Oracle:	288
NextFit_Online:	361 (73 bins from optimal solution)
FirstFit_Online:	293 (5 bins from optimal solution)
BestFit_Online:	291 (3 bins from optimal solution)
WorstFit_Online:	317 (29 bins from optimal solution)
RefinedFirstFit_Online:	344 (56 bins from optimal solution)
NextFit_Offline:	347 (59 bins from optimal solution)
FirstFitDecreasing_Offline:	288 (0 bins from optimal solution)
BestFitDecreasing_Offline:	288 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	288 (0 bins from optimal solution)
BenMaier_Offline:	288 (0 bins from optimal solution)

N4C1W1\_K:

Oracle:	253
NextFit_Online:	332 (79 bins from optimal solution)
FirstFit_Online:	263 (10 bins from optimal solution)
BestFit_Online:	258 (5 bins from optimal solution)
WorstFit_Online:	297 (44 bins from optimal solution)
RefinedFirstFit_Online:	316 (63 bins from optimal solution)
NextFit_Offline:	322 (69 bins from optimal solution)
FirstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BestFitDecreasing_Offline:	253 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BenMaier_Offline:	253 (0 bins from optimal solution)

N4C1W1\_L:

Oracle:	258
NextFit_Online:	336 (78 bins from optimal solution)
FirstFit_Online:	270 (12 bins from optimal solution)
BestFit_Online:	262 (4 bins from optimal solution)
WorstFit_Online:	301 (43 bins from optimal solution)
RefinedFirstFit_Online:	324 (66 bins from optimal solution)
NextFit_Offline:	329 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BestFitDecreasing_Offline:	258 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BenMaier_Offline:	258 (0 bins from optimal solution)

N4C1W1\_M:

Oracle:	246
NextFit_Online:	321 (75 bins from optimal solution)
FirstFit_Online:	256 (10 bins from optimal solution)
BestFit_Online:	254 (8 bins from optimal solution)
WorstFit_Online:	282 (36 bins from optimal solution)
RefinedFirstFit_Online:	304 (58 bins from optimal solution)
NextFit_Offline:	310 (64 bins from optimal solution)
FirstFitDecreasing_Offline:	246 (0 bins from optimal solution)
BestFitDecreasing_Offline:	246 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	246 (0 bins from optimal solution)
BenMaier_Offline:	246 (0 bins from optimal solution)

N4C1W1\_N:

Oracle:	256
NextFit_Online:	332 (76 bins from optimal solution)
FirstFit_Online:	266 (10 bins from optimal solution)
BestFit_Online:	259 (3 bins from optimal solution)
WorstFit_Online:	299 (43 bins from optimal solution)
RefinedFirstFit_Online:	319 (63 bins from optimal solution)
NextFit_Offline:	323 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BestFitDecreasing_Offline:	256 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BenMaier_Offline:	256 (0 bins from optimal solution)

N4C1W1\_O:

Oracle:	258
NextFit_Online:	334 (76 bins from optimal solution)
FirstFit_Online:	268 (10 bins from optimal solution)
BestFit_Online:	264 (6 bins from optimal solution)
WorstFit_Online:	301 (43 bins from optimal solution)
RefinedFirstFit_Online:	318 (60 bins from optimal solution)
NextFit_Offline:	322 (64 bins from optimal solution)
FirstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BestFitDecreasing_Offline:	258 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BenMaier_Offline:	258 (0 bins from optimal solution)

N4C1W1\_P:

Oracle:	271
NextFit_Online:	346 (75 bins from optimal solution)
FirstFit_Online:	275 (4 bins from optimal solution)
BestFit_Online:	272 (1 bins from optimal solution)
WorstFit_Online:	306 (35 bins from optimal solution)
RefinedFirstFit_Online:	326 (55 bins from optimal solution)
NextFit_Offline:	331 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	271 (0 bins from optimal solution)
BestFitDecreasing_Offline:	271 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	271 (0 bins from optimal solution)
BenMaier_Offline:	271 (0 bins from optimal solution)

N4C1W1\_Q:

Oracle:	277
NextFit_Online:	350 (73 bins from optimal solution)
FirstFit_Online:	281 (4 bins from optimal solution)
BestFit_Online:	279 (2 bins from optimal solution)
WorstFit_Online:	311 (34 bins from optimal solution)
RefinedFirstFit_Online:	335 (58 bins from optimal solution)
NextFit_Offline:	338 (61 bins from optimal solution)
FirstFitDecreasing_Offline:	277 (0 bins from optimal solution)
BestFitDecreasing_Offline:	277 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	277 (0 bins from optimal solution)
BenMaier_Offline:	277 (0 bins from optimal solution)

N4C1W1\_R:

Oracle:	254
NextFit_Online:	332 (78 bins from optimal solution)
FirstFit_Online:	265 (11 bins from optimal solution)
BestFit_Online:	260 (6 bins from optimal solution)
WorstFit_Online:	297 (43 bins from optimal solution)
RefinedFirstFit_Online:	320 (66 bins from optimal solution)
NextFit_Offline:	324 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	254 (0 bins from optimal solution)
BestFitDecreasing_Offline:	254 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	254 (0 bins from optimal solution)
BenMaier_Offline:	254 (0 bins from optimal solution)

N4C1W1\_S:

Oracle:	261
NextFit_Online:	336 (75 bins from optimal solution)
FirstFit_Online:	270 (9 bins from optimal solution)
BestFit_Online:	266 (5 bins from optimal solution)
WorstFit_Online:	301 (40 bins from optimal solution)
RefinedFirstFit_Online:	320 (59 bins from optimal solution)
NextFit_Offline:	325 (64 bins from optimal solution)
FirstFitDecreasing_Offline:	261 (0 bins from optimal solution)
BestFitDecreasing_Offline:	261 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	261 (0 bins from optimal solution)
BenMaier_Offline:	261 (0 bins from optimal solution)

N4C1W1\_T:

Oracle:	256
NextFit_Online:	333 (77 bins from optimal solution)
FirstFit_Online:	266 (10 bins from optimal solution)
BestFit_Online:	261 (5 bins from optimal solution)
WorstFit_Online:	299 (43 bins from optimal solution)
RefinedFirstFit_Online:	317 (61 bins from optimal solution)
NextFit_Offline:	322 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BestFitDecreasing_Offline:	256 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BenMaier_Offline:	256 (0 bins from optimal solution)

N4C1W2\_A:

Oracle:	317
NextFit_Online:	408 (91 bins from optimal solution)
FirstFit_Online:	325 (8 bins from optimal solution)
BestFit_Online:	321 (4 bins from optimal solution)
WorstFit_Online:	348 (31 bins from optimal solution)
RefinedFirstFit_Online:	379 (62 bins from optimal solution)
NextFit_Offline:	383 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	317 (0 bins from optimal solution)
BestFitDecreasing_Offline:	317 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	317 (0 bins from optimal solution)
BenMaier_Offline:	317 (0 bins from optimal solution)



N4C1W2\_B:

Oracle:	328
NextFit_Online:	416 (88 bins from optimal solution)
FirstFit_Online:	336 (8 bins from optimal solution)
BestFit_Online:	333 (5 bins from optimal solution)
WorstFit_Online:	360 (32 bins from optimal solution)
RefinedFirstFit_Online:	394 (66 bins from optimal solution)
NextFit_Offline:	397 (69 bins from optimal solution)
FirstFitDecreasing_Offline:	328 (0 bins from optimal solution)
BestFitDecreasing_Offline:	328 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	328 (0 bins from optimal solution)
BenMaier_Offline:	328 (0 bins from optimal solution)

N4C1W2\_C:

Oracle:	319
NextFit_Online:	408 (89 bins from optimal solution)
FirstFit_Online:	327 (8 bins from optimal solution)
BestFit_Online:	324 (5 bins from optimal solution)
WorstFit_Online:	347 (28 bins from optimal solution)
RefinedFirstFit_Online:	387 (68 bins from optimal solution)
NextFit_Offline:	390 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BestFitDecreasing_Offline:	319 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BenMaier_Offline:	319 (0 bins from optimal solution)

N4C1W2\_D:

Oracle:	327
NextFit_Online:	412 (85 bins from optimal solution)
FirstFit_Online:	335 (8 bins from optimal solution)
BestFit_Online:	331 (4 bins from optimal solution)
WorstFit_Online:	358 (31 bins from optimal solution)
RefinedFirstFit_Online:	389 (62 bins from optimal solution)
NextFit_Offline:	393 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	327 (0 bins from optimal solution)
BestFitDecreasing_Offline:	327 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	327 (0 bins from optimal solution)
BenMaier_Offline:	327 (0 bins from optimal solution)

N4C1W2\_E:

Oracle:	310
NextFit_Online:	404 (94 bins from optimal solution)
FirstFit_Online:	320 (10 bins from optimal solution)
BestFit_Online:	316 (6 bins from optimal solution)
WorstFit_Online:	347 (37 bins from optimal solution)
RefinedFirstFit_Online:	378 (68 bins from optimal solution)
NextFit_Offline:	381 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	310 (0 bins from optimal solution)
BestFitDecreasing_Offline:	310 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	310 (0 bins from optimal solution)
BenMaier_Offline:	310 (0 bins from optimal solution)

N4C1W2\_F:

Oracle:	321
NextFit_Online:	410 (89 bins from optimal solution)
FirstFit_Online:	331 (10 bins from optimal solution)
BestFit_Online:	326 (5 bins from optimal solution)
WorstFit_Online:	354 (33 bins from optimal solution)
RefinedFirstFit_Online:	390 (69 bins from optimal solution)
NextFit_Offline:	392 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	321 (0 bins from optimal solution)
BestFitDecreasing_Offline:	321 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	321 (0 bins from optimal solution)
BenMaier_Offline:	321 (0 bins from optimal solution)

N4C1W2\_G:

Oracle:	307
NextFit_Online:	399 (92 bins from optimal solution)
FirstFit_Online:	317 (10 bins from optimal solution)
BestFit_Online:	314 (7 bins from optimal solution)
WorstFit_Online:	343 (36 bins from optimal solution)
RefinedFirstFit_Online:	373 (66 bins from optimal solution)
NextFit_Offline:	378 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	308 (1 bins from optimal solution)
BestFitDecreasing_Offline:	308 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	308 (1 bins from optimal solution)
BenMaier_Offline:	308 (1 bins from optimal solution)

N4C1W2\_H:

Oracle:	315
NextFit_Online:	404 (89 bins from optimal solution)
FirstFit_Online:	325 (10 bins from optimal solution)
BestFit_Online:	319 (4 bins from optimal solution)
WorstFit_Online:	350 (35 bins from optimal solution)
RefinedFirstFit_Online:	384 (69 bins from optimal solution)
NextFit_Offline:	386 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	315 (0 bins from optimal solution)
BestFitDecreasing_Offline:	315 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	315 (0 bins from optimal solution)
BenMaier_Offline:	315 (0 bins from optimal solution)

N4C1W2\_I:

Oracle:	304
NextFit_Online:	399 (95 bins from optimal solution)
FirstFit_Online:	313 (9 bins from optimal solution)
BestFit_Online:	310 (6 bins from optimal solution)
WorstFit_Online:	341 (37 bins from optimal solution)
RefinedFirstFit_Online:	371 (67 bins from optimal solution)
NextFit_Offline:	374 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	305 (1 bins from optimal solution)
BestFitDecreasing_Offline:	305 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	305 (1 bins from optimal solution)
BenMaier_Offline:	305 (1 bins from optimal solution)

N4C1W2\_J:

Oracle:	311
NextFit_Online:	409 (98 bins from optimal solution)
FirstFit_Online:	321 (10 bins from optimal solution)
BestFit_Online:	316 (5 bins from optimal solution)
WorstFit_Online:	346 (35 bins from optimal solution)
RefinedFirstFit_Online:	377 (66 bins from optimal solution)
NextFit_Offline:	381 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	312 (1 bins from optimal solution)
BestFitDecreasing_Offline:	312 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	312 (1 bins from optimal solution)
BenMaier_Offline:	312 (1 bins from optimal solution)

N4C1W2\_K:

Oracle:	311
NextFit_Online:	405 (94 bins from optimal solution)
FirstFit_Online:	320 (9 bins from optimal solution)
BestFit_Online:	317 (6 bins from optimal solution)
WorstFit_Online:	346 (35 bins from optimal solution)
RefinedFirstFit_Online:	381 (70 bins from optimal solution)
NextFit_Offline:	383 (72 bins from optimal solution)
FirstFitDecreasing_Offline:	311 (0 bins from optimal solution)
BestFitDecreasing_Offline:	311 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	311 (0 bins from optimal solution)
BenMaier_Offline:	311 (0 bins from optimal solution)

N4C1W2\_L:

Oracle:	316
NextFit_Online:	405 (89 bins from optimal solution)
FirstFit_Online:	325 (9 bins from optimal solution)
BestFit_Online:	321 (5 bins from optimal solution)
WorstFit_Online:	352 (36 bins from optimal solution)
RefinedFirstFit_Online:	384 (68 bins from optimal solution)
NextFit_Offline:	387 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	316 (0 bins from optimal solution)
BestFitDecreasing_Offline:	316 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	316 (0 bins from optimal solution)
BenMaier_Offline:	316 (0 bins from optimal solution)

N4C1W2\_M:

Oracle:	330
NextFit_Online:	412 (82 bins from optimal solution)
FirstFit_Online:	337 (7 bins from optimal solution)
BestFit_Online:	332 (2 bins from optimal solution)
WorstFit_Online:	361 (31 bins from optimal solution)
RefinedFirstFit_Online:	389 (59 bins from optimal solution)
NextFit_Offline:	392 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	330 (0 bins from optimal solution)
BestFitDecreasing_Offline:	330 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	330 (0 bins from optimal solution)
BenMaier_Offline:	330 (0 bins from optimal solution)

N4C1W2\_N:

Oracle:	311
NextFit_Online:	403 (92 bins from optimal solution)
FirstFit_Online:	320 (9 bins from optimal solution)
BestFit_Online:	317 (6 bins from optimal solution)
WorstFit_Online:	345 (34 bins from optimal solution)
RefinedFirstFit_Online:	378 (67 bins from optimal solution)
NextFit_Offline:	382 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	311 (0 bins from optimal solution)
BestFitDecreasing_Offline:	311 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	311 (0 bins from optimal solution)
BenMaier_Offline:	311 (0 bins from optimal solution)

N4C1W2\_O:

Oracle:	319
NextFit_Online:	410 (91 bins from optimal solution)
FirstFit_Online:	328 (9 bins from optimal solution)
BestFit_Online:	323 (4 bins from optimal solution)
WorstFit_Online:	351 (32 bins from optimal solution)
RefinedFirstFit_Online:	384 (65 bins from optimal solution)
NextFit_Offline:	387 (68 bins from optimal solution)
FirstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BestFitDecreasing_Offline:	319 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BenMaier_Offline:	319 (0 bins from optimal solution)

N4C1W2\_P:

Oracle:	317
NextFit_Online:	408 (91 bins from optimal solution)
FirstFit_Online:	326 (9 bins from optimal solution)
BestFit_Online:	321 (4 bins from optimal solution)
WorstFit_Online:	355 (38 bins from optimal solution)
RefinedFirstFit_Online:	386 (69 bins from optimal solution)
NextFit_Offline:	389 (72 bins from optimal solution)
FirstFitDecreasing_Offline:	317 (0 bins from optimal solution)
BestFitDecreasing_Offline:	317 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	317 (0 bins from optimal solution)
BenMaier_Offline:	317 (0 bins from optimal solution)

N4C1W2\_Q:

Oracle:	319
NextFit_Online:	410 (91 bins from optimal solution)
FirstFit_Online:	330 (11 bins from optimal solution)
BestFit_Online:	324 (5 bins from optimal solution)
WorstFit_Online:	354 (35 bins from optimal solution)
RefinedFirstFit_Online:	385 (66 bins from optimal solution)
NextFit_Offline:	389 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BestFitDecreasing_Offline:	319 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BenMaier_Offline:	319 (0 bins from optimal solution)

N4C1W2\_R:

Oracle:	319
NextFit_Online:	409 (90 bins from optimal solution)
FirstFit_Online:	328 (9 bins from optimal solution)
BestFit_Online:	323 (4 bins from optimal solution)
WorstFit_Online:	352 (33 bins from optimal solution)
RefinedFirstFit_Online:	384 (65 bins from optimal solution)
NextFit_Offline:	387 (68 bins from optimal solution)
FirstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BestFitDecreasing_Offline:	319 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	319 (0 bins from optimal solution)
BenMaier_Offline:	319 (0 bins from optimal solution)

N4C1W2\_S:

Oracle:	312
NextFit_Online:	406 (94 bins from optimal solution)
FirstFit_Online:	322 (10 bins from optimal solution)
BestFit_Online:	318 (6 bins from optimal solution)
WorstFit_Online:	347 (35 bins from optimal solution)
RefinedFirstFit_Online:	381 (69 bins from optimal solution)
NextFit_Offline:	386 (74 bins from optimal solution)
FirstFitDecreasing_Offline:	313 (1 bins from optimal solution)
BestFitDecreasing_Offline:	313 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	313 (1 bins from optimal solution)
BenMaier_Offline:	313 (1 bins from optimal solution)

N4C1W2\_T:

Oracle:	323
NextFit_Online:	406 (83 bins from optimal solution)
FirstFit_Online:	330 (7 bins from optimal solution)
BestFit_Online:	326 (3 bins from optimal solution)
WorstFit_Online:	354 (31 bins from optimal solution)
RefinedFirstFit_Online:	387 (64 bins from optimal solution)
NextFit_Offline:	390 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	323 (0 bins from optimal solution)
BestFitDecreasing_Offline:	323 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	323 (0 bins from optimal solution)
BenMaier_Offline:	323 (0 bins from optimal solution)

N4C1W4\_A:

Oracle:	368
NextFit_Online:	446 (78 bins from optimal solution)
FirstFit_Online:	376 (8 bins from optimal solution)
BestFit_Online:	374 (6 bins from optimal solution)
WorstFit_Online:	395 (27 bins from optimal solution)
RefinedFirstFit_Online:	421 (53 bins from optimal solution)
NextFit_Offline:	424 (56 bins from optimal solution)
FirstFitDecreasing_Offline:	368 (0 bins from optimal solution)
BestFitDecreasing_Offline:	368 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	368 (0 bins from optimal solution)
BenMaier_Offline:	368 (0 bins from optimal solution)

N4C1W4\_B:

Oracle:	349
NextFit_Online:	428 (79 bins from optimal solution)
FirstFit_Online:	360 (11 bins from optimal solution)
BestFit_Online:	356 (7 bins from optimal solution)
WorstFit_Online:	379 (30 bins from optimal solution)
RefinedFirstFit_Online:	414 (65 bins from optimal solution)
NextFit_Offline:	418 (69 bins from optimal solution)
FirstFitDecreasing_Offline:	349 (0 bins from optimal solution)
BestFitDecreasing_Offline:	349 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	349 (0 bins from optimal solution)
BenMaier_Offline:	349 (0 bins from optimal solution)

N4C1W4\_C:

Oracle:	365
NextFit_Online:	443 (78 bins from optimal solution)
FirstFit_Online:	372 (7 bins from optimal solution)
BestFit_Online:	369 (4 bins from optimal solution)
WorstFit_Online:	392 (27 bins from optimal solution)
RefinedFirstFit_Online:	419 (54 bins from optimal solution)
NextFit_Offline:	422 (57 bins from optimal solution)
FirstFitDecreasing_Offline:	365 (0 bins from optimal solution)
BestFitDecreasing_Offline:	365 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	365 (0 bins from optimal solution)
BenMaier_Offline:	365 (0 bins from optimal solution)

N4C1W4\_D:

Oracle:	359
NextFit_Online:	437 (78 bins from optimal solution)
FirstFit_Online:	366 (7 bins from optimal solution)
BestFit_Online:	365 (6 bins from optimal solution)
WorstFit_Online:	387 (28 bins from optimal solution)
RefinedFirstFit_Online:	421 (62 bins from optimal solution)
NextFit_Offline:	425 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BestFitDecreasing_Offline:	359 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BenMaier_Offline:	359 (0 bins from optimal solution)

N4C1W4\_E:

Oracle:	373
NextFit_Online:	447 (74 bins from optimal solution)
FirstFit_Online:	382 (9 bins from optimal solution)
BestFit_Online:	379 (6 bins from optimal solution)
WorstFit_Online:	398 (25 bins from optimal solution)
RefinedFirstFit_Online:	426 (53 bins from optimal solution)
NextFit_Offline:	429 (56 bins from optimal solution)
FirstFitDecreasing_Offline:	373 (0 bins from optimal solution)
BestFitDecreasing_Offline:	373 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	373 (0 bins from optimal solution)
BenMaier_Offline:	373 (0 bins from optimal solution)

N4C1W4\_F:

Oracle:	369
NextFit_Online:	439 (70 bins from optimal solution)
FirstFit_Online:	373 (4 bins from optimal solution)
BestFit_Online:	370 (1 bins from optimal solution)
WorstFit_Online:	392 (23 bins from optimal solution)
RefinedFirstFit_Online:	425 (56 bins from optimal solution)
NextFit_Offline:	428 (59 bins from optimal solution)
FirstFitDecreasing_Offline:	369 (0 bins from optimal solution)
BestFitDecreasing_Offline:	369 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	369 (0 bins from optimal solution)
BenMaier_Offline:	369 (0 bins from optimal solution)

N4C1W4\_G:

Oracle:	362
NextFit_Online:	441 (79 bins from optimal solution)
FirstFit_Online:	372 (10 bins from optimal solution)
BestFit_Online:	369 (7 bins from optimal solution)
WorstFit_Online:	390 (28 bins from optimal solution)
RefinedFirstFit_Online:	419 (57 bins from optimal solution)
NextFit_Offline:	422 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	362 (0 bins from optimal solution)
BestFitDecreasing_Offline:	362 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	362 (0 bins from optimal solution)
BenMaier_Offline:	362 (0 bins from optimal solution)

N4C1W4\_H:

Oracle:	359
NextFit_Online:	438 (79 bins from optimal solution)
FirstFit_Online:	366 (7 bins from optimal solution)
BestFit_Online:	363 (4 bins from optimal solution)
WorstFit_Online:	385 (26 bins from optimal solution)
RefinedFirstFit_Online:	415 (56 bins from optimal solution)
NextFit_Offline:	419 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BestFitDecreasing_Offline:	359 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BenMaier_Offline:	359 (0 bins from optimal solution)

N4C1W4\_I:

Oracle:	359
NextFit_Online:	438 (79 bins from optimal solution)
FirstFit_Online:	366 (7 bins from optimal solution)
BestFit_Online:	363 (4 bins from optimal solution)
WorstFit_Online:	385 (26 bins from optimal solution)
RefinedFirstFit_Online:	416 (57 bins from optimal solution)
NextFit_Offline:	420 (61 bins from optimal solution)
FirstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BestFitDecreasing_Offline:	359 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BenMaier_Offline:	359 (0 bins from optimal solution)

N4C1W4\_J:

Oracle:	368
NextFit_Online:	445 (77 bins from optimal solution)
FirstFit_Online:	378 (10 bins from optimal solution)
BestFit_Online:	375 (7 bins from optimal solution)
WorstFit_Online:	395 (27 bins from optimal solution)
RefinedFirstFit_Online:	425 (57 bins from optimal solution)
NextFit_Offline:	429 (61 bins from optimal solution)
FirstFitDecreasing_Offline:	368 (0 bins from optimal solution)
BestFitDecreasing_Offline:	368 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	368 (0 bins from optimal solution)
BenMaier_Offline:	368 (0 bins from optimal solution)

N4C1W4\_K:

Oracle:	371
NextFit_Online:	446 (75 bins from optimal solution)
FirstFit_Online:	380 (9 bins from optimal solution)
BestFit_Online:	377 (6 bins from optimal solution)
WorstFit_Online:	398 (27 bins from optimal solution)
RefinedFirstFit_Online:	425 (54 bins from optimal solution)
NextFit_Offline:	427 (56 bins from optimal solution)
FirstFitDecreasing_Offline:	371 (0 bins from optimal solution)
BestFitDecreasing_Offline:	371 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	371 (0 bins from optimal solution)
BenMaier_Offline:	371 (0 bins from optimal solution)

N4C1W4\_L:

Oracle:	355
NextFit_Online:	433 (78 bins from optimal solution)
FirstFit_Online:	362 (7 bins from optimal solution)
BestFit_Online:	360 (5 bins from optimal solution)
WorstFit_Online:	384 (29 bins from optimal solution)
RefinedFirstFit_Online:	411 (56 bins from optimal solution)
NextFit_Offline:	414 (59 bins from optimal solution)
FirstFitDecreasing_Offline:	355 (0 bins from optimal solution)
BestFitDecreasing_Offline:	355 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	355 (0 bins from optimal solution)
BenMaier_Offline:	355 (0 bins from optimal solution)

N4C1W4\_M:

Oracle:	360
NextFit_Online:	439 (79 bins from optimal solution)
FirstFit_Online:	370 (10 bins from optimal solution)
BestFit_Online:	367 (7 bins from optimal solution)
WorstFit_Online:	387 (27 bins from optimal solution)
RefinedFirstFit_Online:	419 (59 bins from optimal solution)
NextFit_Offline:	421 (61 bins from optimal solution)
FirstFitDecreasing_Offline:	360 (0 bins from optimal solution)
BestFitDecreasing_Offline:	360 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	360 (0 bins from optimal solution)
BenMaier_Offline:	360 (0 bins from optimal solution)



N4C1W4\_N:

Oracle:	363
NextFit_Online:	444 (81 bins from optimal solution)
FirstFit_Online:	374 (11 bins from optimal solution)
BestFit_Online:	371 (8 bins from optimal solution)
WorstFit_Online:	391 (28 bins from optimal solution)
RefinedFirstFit_Online:	422 (59 bins from optimal solution)
NextFit_Offline:	425 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	363 (0 bins from optimal solution)
BestFitDecreasing_Offline:	363 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	363 (0 bins from optimal solution)
BenMaier_Offline:	363 (0 bins from optimal solution)

N4C1W4\_O:

Oracle:	351
NextFit_Online:	432 (81 bins from optimal solution)
FirstFit_Online:	361 (10 bins from optimal solution)
BestFit_Online:	357 (6 bins from optimal solution)
WorstFit_Online:	379 (28 bins from optimal solution)
RefinedFirstFit_Online:	414 (63 bins from optimal solution)
NextFit_Offline:	417 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	351 (0 bins from optimal solution)
BestFitDecreasing_Offline:	351 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	351 (0 bins from optimal solution)
BenMaier_Offline:	351 (0 bins from optimal solution)

N4C1W4\_P:

Oracle:	363
NextFit_Online:	442 (79 bins from optimal solution)
FirstFit_Online:	373 (10 bins from optimal solution)
BestFit_Online:	371 (8 bins from optimal solution)
WorstFit_Online:	389 (26 bins from optimal solution)
RefinedFirstFit_Online:	422 (59 bins from optimal solution)
NextFit_Offline:	426 (63 bins from optimal solution)
FirstFitDecreasing_Offline:	363 (0 bins from optimal solution)
BestFitDecreasing_Offline:	363 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	363 (0 bins from optimal solution)
BenMaier_Offline:	363 (0 bins from optimal solution)

N4C1W4\_Q:

Oracle:	359
NextFit_Online:	438 (79 bins from optimal solution)
FirstFit_Online:	367 (8 bins from optimal solution)
BestFit_Online:	366 (7 bins from optimal solution)
WorstFit_Online:	386 (27 bins from optimal solution)
RefinedFirstFit_Online:	420 (61 bins from optimal solution)
NextFit_Offline:	423 (64 bins from optimal solution)
FirstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BestFitDecreasing_Offline:	359 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BenMaier_Offline:	359 (0 bins from optimal solution)

N4C1W4\_R:

Oracle:	370
NextFit_Online:	445 (75 bins from optimal solution)
FirstFit_Online:	378 (8 bins from optimal solution)
BestFit_Online:	375 (5 bins from optimal solution)
WorstFit_Online:	395 (25 bins from optimal solution)
RefinedFirstFit_Online:	428 (58 bins from optimal solution)
NextFit_Offline:	430 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	370 (0 bins from optimal solution)
BestFitDecreasing_Offline:	370 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	370 (0 bins from optimal solution)
BenMaier_Offline:	370 (0 bins from optimal solution)

N4C1W4\_S:

Oracle:	359
NextFit_Online:	435 (76 bins from optimal solution)
FirstFit_Online:	365 (6 bins from optimal solution)
BestFit_Online:	363 (4 bins from optimal solution)
WorstFit_Online:	382 (23 bins from optimal solution)
RefinedFirstFit_Online:	415 (56 bins from optimal solution)
NextFit_Offline:	419 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BestFitDecreasing_Offline:	359 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	359 (0 bins from optimal solution)
BenMaier_Offline:	359 (0 bins from optimal solution)

N4C1W4\_T:

Oracle:	355
NextFit_Online:	431 (76 bins from optimal solution)
FirstFit_Online:	358 (3 bins from optimal solution)
BestFit_Online:	357 (2 bins from optimal solution)
WorstFit_Online:	375 (20 bins from optimal solution)
RefinedFirstFit_Online:	406 (51 bins from optimal solution)
NextFit_Offline:	411 (56 bins from optimal solution)
FirstFitDecreasing_Offline:	355 (0 bins from optimal solution)
BestFitDecreasing_Offline:	355 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	355 (0 bins from optimal solution)
BenMaier_Offline:	355 (0 bins from optimal solution)

N4C2W1\_A:

Oracle:	210
NextFit_Online:	284 (74 bins from optimal solution)
FirstFit_Online:	220 (10 bins from optimal solution)
BestFit_Online:	217 (7 bins from optimal solution)
WorstFit_Online:	250 (40 bins from optimal solution)
RefinedFirstFit_Online:	279 (69 bins from optimal solution)
NextFit_Offline:	285 (75 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (0 bins from optimal solution)
BestFitDecreasing_Offline:	210 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	212 (2 bins from optimal solution)
BenMaier_Offline:	210 (0 bins from optimal solution)

N4C2W1\_B:

Oracle:	213
NextFit_Online:	289 (76 bins from optimal solution)
FirstFit_Online:	222 (9 bins from optimal solution)
BestFit_Online:	220 (7 bins from optimal solution)
WorstFit_Online:	257 (44 bins from optimal solution)
RefinedFirstFit_Online:	285 (72 bins from optimal solution)
NextFit_Offline:	289 (76 bins from optimal solution)
FirstFitDecreasing_Offline:	213 (0 bins from optimal solution)
BestFitDecreasing_Offline:	213 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	216 (3 bins from optimal solution)
BenMaier_Offline:	213 (0 bins from optimal solution)

N4C2W1\_C:

Oracle:	213
NextFit_Online:	293 (80 bins from optimal solution)
FirstFit_Online:	224 (11 bins from optimal solution)
BestFit_Online:	222 (9 bins from optimal solution)
WorstFit_Online:	255 (42 bins from optimal solution)
RefinedFirstFit_Online:	284 (71 bins from optimal solution)
NextFit_Offline:	290 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	213 (0 bins from optimal solution)
BestFitDecreasing_Offline:	213 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	214 (1 bins from optimal solution)
BenMaier_Offline:	213 (0 bins from optimal solution)

N4C2W1\_D:

Oracle:	200
NextFit_Online:	270 (70 bins from optimal solution)
FirstFit_Online:	207 (7 bins from optimal solution)
BestFit_Online:	205 (5 bins from optimal solution)
WorstFit_Online:	238 (38 bins from optimal solution)
RefinedFirstFit_Online:	264 (64 bins from optimal solution)
NextFit_Offline:	271 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	201 (1 bins from optimal solution)
BestFitDecreasing_Offline:	201 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	201 (1 bins from optimal solution)
BenMaier_Offline:	201 (1 bins from optimal solution)

N4C2W1\_E:

Oracle:	215
NextFit_Online:	297 (82 bins from optimal solution)
FirstFit_Online:	227 (12 bins from optimal solution)
BestFit_Online:	223 (8 bins from optimal solution)
WorstFit_Online:	258 (43 bins from optimal solution)
RefinedFirstFit_Online:	287 (72 bins from optimal solution)
NextFit_Offline:	292 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	216 (1 bins from optimal solution)
BestFitDecreasing_Offline:	216 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	218 (3 bins from optimal solution)
BenMaier_Offline:	216 (1 bins from optimal solution)

N4C2W1\_F:

Oracle:	203
NextFit_Online:	274 (71 bins from optimal solution)
FirstFit_Online:	214 (11 bins from optimal solution)
BestFit_Online:	211 (8 bins from optimal solution)
WorstFit_Online:	241 (38 bins from optimal solution)
RefinedFirstFit_Online:	271 (68 bins from optimal solution)
NextFit_Offline:	276 (73 bins from optimal solution)
FirstFitDecreasing_Offline:	203 (0 bins from optimal solution)
BestFitDecreasing_Offline:	203 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	205 (2 bins from optimal solution)
BenMaier_Offline:	203 (0 bins from optimal solution)

N4C2W1\_G:

Oracle:	211
NextFit_Online:	286 (75 bins from optimal solution)
FirstFit_Online:	223 (12 bins from optimal solution)
BestFit_Online:	218 (7 bins from optimal solution)
WorstFit_Online:	250 (39 bins from optimal solution)
RefinedFirstFit_Online:	276 (65 bins from optimal solution)
NextFit_Offline:	282 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	212 (1 bins from optimal solution)
BestFitDecreasing_Offline:	212 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	213 (2 bins from optimal solution)
BenMaier_Offline:	212 (1 bins from optimal solution)

N4C2W1\_H:

Oracle:	215
NextFit_Online:	291 (76 bins from optimal solution)
FirstFit_Online:	226 (11 bins from optimal solution)
BestFit_Online:	223 (8 bins from optimal solution)
WorstFit_Online:	256 (41 bins from optimal solution)
RefinedFirstFit_Online:	289 (74 bins from optimal solution)
NextFit_Offline:	294 (79 bins from optimal solution)
FirstFitDecreasing_Offline:	215 (0 bins from optimal solution)
BestFitDecreasing_Offline:	215 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	220 (5 bins from optimal solution)
BenMaier_Offline:	215 (0 bins from optimal solution)

N4C2W1\_I:

Oracle:	209
NextFit_Online:	284 (75 bins from optimal solution)
FirstFit_Online:	220 (11 bins from optimal solution)
BestFit_Online:	217 (8 bins from optimal solution)
WorstFit_Online:	248 (39 bins from optimal solution)
RefinedFirstFit_Online:	280 (71 bins from optimal solution)
NextFit_Offline:	286 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (1 bins from optimal solution)
BestFitDecreasing_Offline:	210 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	211 (2 bins from optimal solution)
BenMaier_Offline:	210 (1 bins from optimal solution)

N4C2W1\_J:

Oracle:	202
NextFit_Online:	274 (72 bins from optimal solution)
FirstFit_Online:	212 (10 bins from optimal solution)
BestFit_Online:	208 (6 bins from optimal solution)
WorstFit_Online:	240 (38 bins from optimal solution)
RefinedFirstFit_Online:	270 (68 bins from optimal solution)
NextFit_Offline:	274 (72 bins from optimal solution)
FirstFitDecreasing_Offline:	203 (1 bins from optimal solution)
BestFitDecreasing_Offline:	203 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (2 bins from optimal solution)
BenMaier_Offline:	203 (1 bins from optimal solution)

N4C2W1\_K:

Oracle:	210
NextFit_Online:	286 (76 bins from optimal solution)
FirstFit_Online:	221 (11 bins from optimal solution)
BestFit_Online:	219 (9 bins from optimal solution)
WorstFit_Online:	251 (41 bins from optimal solution)
RefinedFirstFit_Online:	281 (71 bins from optimal solution)
NextFit_Offline:	286 (76 bins from optimal solution)
FirstFitDecreasing_Offline:	211 (1 bins from optimal solution)
BestFitDecreasing_Offline:	211 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	212 (2 bins from optimal solution)
BenMaier_Offline:	211 (1 bins from optimal solution)

N4C2W1\_L:

Oracle:	209
NextFit_Online:	284 (75 bins from optimal solution)
FirstFit_Online:	221 (12 bins from optimal solution)
BestFit_Online:	219 (10 bins from optimal solution)
WorstFit_Online:	248 (39 bins from optimal solution)
RefinedFirstFit_Online:	279 (70 bins from optimal solution)
NextFit_Offline:	285 (76 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (1 bins from optimal solution)
BestFitDecreasing_Offline:	210 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	211 (2 bins from optimal solution)
BenMaier_Offline:	210 (1 bins from optimal solution)

N4C2W1\_M:

Oracle:	217
NextFit_Online:	298 (81 bins from optimal solution)
FirstFit_Online:	229 (12 bins from optimal solution)
BestFit_Online:	226 (9 bins from optimal solution)
WorstFit_Online:	262 (45 bins from optimal solution)
RefinedFirstFit_Online:	290 (73 bins from optimal solution)
NextFit_Offline:	295 (78 bins from optimal solution)
FirstFitDecreasing_Offline:	218 (1 bins from optimal solution)
BestFitDecreasing_Offline:	218 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	221 (4 bins from optimal solution)
BenMaier_Offline:	218 (1 bins from optimal solution)

N4C2W1\_N:

Oracle:	210
NextFit_Online:	289 (79 bins from optimal solution)
FirstFit_Online:	221 (11 bins from optimal solution)
BestFit_Online:	218 (8 bins from optimal solution)
WorstFit_Online:	254 (44 bins from optimal solution)
RefinedFirstFit_Online:	283 (73 bins from optimal solution)
NextFit_Offline:	289 (79 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (0 bins from optimal solution)
BestFitDecreasing_Offline:	210 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	212 (2 bins from optimal solution)
BenMaier_Offline:	210 (0 bins from optimal solution)

N4C2W1\_O:

Oracle:	212
NextFit_Online:	289 (77 bins from optimal solution)
FirstFit_Online:	223 (11 bins from optimal solution)
BestFit_Online:	220 (8 bins from optimal solution)
WorstFit_Online:	254 (42 bins from optimal solution)
RefinedFirstFit_Online:	285 (73 bins from optimal solution)
NextFit_Offline:	291 (79 bins from optimal solution)
FirstFitDecreasing_Offline:	212 (0 bins from optimal solution)
BestFitDecreasing_Offline:	212 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	215 (3 bins from optimal solution)
BenMaier_Offline:	212 (0 bins from optimal solution)

N4C2W1\_P:

Oracle:	212
NextFit_Online:	291 (79 bins from optimal solution)
FirstFit_Online:	224 (12 bins from optimal solution)
BestFit_Online:	222 (10 bins from optimal solution)
WorstFit_Online:	257 (45 bins from optimal solution)
RefinedFirstFit_Online:	285 (73 bins from optimal solution)
NextFit_Offline:	292 (80 bins from optimal solution)
FirstFitDecreasing_Offline:	213 (1 bins from optimal solution)
BestFitDecreasing_Offline:	213 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	215 (3 bins from optimal solution)
BenMaier_Offline:	213 (1 bins from optimal solution)

N4C2W1\_Q:

Oracle:	210
NextFit_Online:	285 (75 bins from optimal solution)
FirstFit_Online:	222 (12 bins from optimal solution)
BestFit_Online:	218 (8 bins from optimal solution)
WorstFit_Online:	251 (41 bins from optimal solution)
RefinedFirstFit_Online:	280 (70 bins from optimal solution)
NextFit_Offline:	286 (76 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (0 bins from optimal solution)
BestFitDecreasing_Offline:	210 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	212 (2 bins from optimal solution)
BenMaier_Offline:	210 (0 bins from optimal solution)

N4C2W1\_R:

Oracle:	212
NextFit_Online:	290 (78 bins from optimal solution)
FirstFit_Online:	225 (13 bins from optimal solution)
BestFit_Online:	221 (9 bins from optimal solution)
WorstFit_Online:	255 (43 bins from optimal solution)
RefinedFirstFit_Online:	283 (71 bins from optimal solution)
NextFit_Offline:	288 (76 bins from optimal solution)
FirstFitDecreasing_Offline:	213 (1 bins from optimal solution)
BestFitDecreasing_Offline:	213 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	214 (2 bins from optimal solution)
BenMaier_Offline:	213 (1 bins from optimal solution)

N4C2W1\_S:

Oracle:	210
NextFit_Online:	287 (77 bins from optimal solution)
FirstFit_Online:	222 (12 bins from optimal solution)
BestFit_Online:	219 (9 bins from optimal solution)
WorstFit_Online:	251 (41 bins from optimal solution)
RefinedFirstFit_Online:	284 (74 bins from optimal solution)
NextFit_Offline:	291 (81 bins from optimal solution)
FirstFitDecreasing_Offline:	210 (0 bins from optimal solution)
BestFitDecreasing_Offline:	210 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	213 (3 bins from optimal solution)
BenMaier_Offline:	210 (0 bins from optimal solution)

N4C2W1\_T:

Oracle:	212
NextFit_Online:	288 (76 bins from optimal solution)
FirstFit_Online:	223 (11 bins from optimal solution)
BestFit_Online:	220 (8 bins from optimal solution)
WorstFit_Online:	253 (41 bins from optimal solution)
RefinedFirstFit_Online:	283 (71 bins from optimal solution)
NextFit_Offline:	289 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	212 (0 bins from optimal solution)
BestFitDecreasing_Offline:	212 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	214 (2 bins from optimal solution)
BenMaier_Offline:	212 (0 bins from optimal solution)

N4C2W2\_A:

Oracle:	253
NextFit_Online:	344 (91 bins from optimal solution)
FirstFit_Online:	267 (14 bins from optimal solution)
BestFit_Online:	261 (8 bins from optimal solution)
WorstFit_Online:	302 (49 bins from optimal solution)
RefinedFirstFit_Online:	339 (86 bins from optimal solution)
NextFit_Offline:	344 (91 bins from optimal solution)
FirstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BestFitDecreasing_Offline:	253 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BenMaier_Offline:	253 (0 bins from optimal solution)

N4C2W2\_B:

Oracle:	254
NextFit_Online:	342 (88 bins from optimal solution)
FirstFit_Online:	266 (12 bins from optimal solution)
BestFit_Online:	261 (7 bins from optimal solution)
WorstFit_Online:	301 (47 bins from optimal solution)
RefinedFirstFit_Online:	339 (85 bins from optimal solution)
NextFit_Offline:	343 (89 bins from optimal solution)
FirstFitDecreasing_Offline:	254 (0 bins from optimal solution)
BestFitDecreasing_Offline:	254 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	254 (0 bins from optimal solution)
BenMaier_Offline:	254 (0 bins from optimal solution)

N4C2W2\_C:

Oracle:	249
NextFit_Online:	336 (87 bins from optimal solution)
FirstFit_Online:	263 (14 bins from optimal solution)
BestFit_Online:	257 (8 bins from optimal solution)
WorstFit_Online:	299 (50 bins from optimal solution)
RefinedFirstFit_Online:	337 (88 bins from optimal solution)
NextFit_Offline:	342 (93 bins from optimal solution)
FirstFitDecreasing_Offline:	249 (0 bins from optimal solution)
BestFitDecreasing_Offline:	249 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	249 (0 bins from optimal solution)
BenMaier_Offline:	249 (0 bins from optimal solution)

N4C2W2\_D:

Oracle:	258
NextFit_Online:	353 (95 bins from optimal solution)
FirstFit_Online:	271 (13 bins from optimal solution)
BestFit_Online:	264 (6 bins from optimal solution)
WorstFit_Online:	308 (50 bins from optimal solution)
RefinedFirstFit_Online:	341 (83 bins from optimal solution)
NextFit_Offline:	346 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BestFitDecreasing_Offline:	258 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	258 (0 bins from optimal solution)
BenMaier_Offline:	258 (0 bins from optimal solution)

N4C2W2\_E:

Oracle:	257
NextFit_Online:	349 (92 bins from optimal solution)
FirstFit_Online:	268 (11 bins from optimal solution)
BestFit_Online:	262 (5 bins from optimal solution)
WorstFit_Online:	306 (49 bins from optimal solution)
RefinedFirstFit_Online:	346 (89 bins from optimal solution)
NextFit_Offline:	351 (94 bins from optimal solution)
FirstFitDecreasing_Offline:	257 (0 bins from optimal solution)
BestFitDecreasing_Offline:	257 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	257 (0 bins from optimal solution)
BenMaier_Offline:	257 (0 bins from optimal solution)



N4C2W2\_F:

Oracle:	272
NextFit_Online:	360 (88 bins from optimal solution)
FirstFit_Online:	278 (6 bins from optimal solution)
BestFit_Online:	273 (1 bins from optimal solution)
WorstFit_Online:	314 (42 bins from optimal solution)
RefinedFirstFit_Online:	353 (81 bins from optimal solution)
NextFit_Offline:	357 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	272 (0 bins from optimal solution)
BestFitDecreasing_Offline:	272 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	272 (0 bins from optimal solution)
BenMaier_Offline:	272 (0 bins from optimal solution)

N4C2W2\_G:

Oracle:	252
NextFit_Online:	339 (87 bins from optimal solution)
FirstFit_Online:	264 (12 bins from optimal solution)
BestFit_Online:	259 (7 bins from optimal solution)
WorstFit_Online:	302 (50 bins from optimal solution)
RefinedFirstFit_Online:	338 (86 bins from optimal solution)
NextFit_Offline:	342 (90 bins from optimal solution)
FirstFitDecreasing_Offline:	252 (0 bins from optimal solution)
BestFitDecreasing_Offline:	252 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	252 (0 bins from optimal solution)
BenMaier_Offline:	252 (0 bins from optimal solution)

N4C2W2\_H:

Oracle:	255
NextFit_Online:	339 (84 bins from optimal solution)
FirstFit_Online:	265 (10 bins from optimal solution)
BestFit_Online:	258 (3 bins from optimal solution)
WorstFit_Online:	302 (47 bins from optimal solution)
RefinedFirstFit_Online:	334 (79 bins from optimal solution)
NextFit_Offline:	339 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	255 (0 bins from optimal solution)
BestFitDecreasing_Offline:	255 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	255 (0 bins from optimal solution)
BenMaier_Offline:	255 (0 bins from optimal solution)

N4C2W2\_I:

Oracle:	262
NextFit_Online:	350 (88 bins from optimal solution)
FirstFit_Online:	269 (7 bins from optimal solution)
BestFit_Online:	264 (2 bins from optimal solution)
WorstFit_Online:	306 (44 bins from optimal solution)
RefinedFirstFit_Online:	343 (81 bins from optimal solution)
NextFit_Offline:	349 (87 bins from optimal solution)
FirstFitDecreasing_Offline:	262 (0 bins from optimal solution)
BestFitDecreasing_Offline:	262 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	262 (0 bins from optimal solution)
BenMaier_Offline:	262 (0 bins from optimal solution)

N4C2W2\_J:

Oracle:	256
NextFit_Online:	349 (93 bins from optimal solution)
FirstFit_Online:	269 (13 bins from optimal solution)
BestFit_Online:	263 (7 bins from optimal solution)
WorstFit_Online:	306 (50 bins from optimal solution)
RefinedFirstFit_Online:	346 (90 bins from optimal solution)
NextFit_Offline:	349 (93 bins from optimal solution)
FirstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BestFitDecreasing_Offline:	256 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BenMaier_Offline:	256 (0 bins from optimal solution)

N4C2W2\_K:

Oracle:	259
NextFit_Online:	352 (93 bins from optimal solution)
FirstFit_Online:	271 (12 bins from optimal solution)
BestFit_Online:	266 (7 bins from optimal solution)
WorstFit_Online:	306 (47 bins from optimal solution)
RefinedFirstFit_Online:	345 (86 bins from optimal solution)
NextFit_Offline:	349 (90 bins from optimal solution)
FirstFitDecreasing_Offline:	259 (0 bins from optimal solution)
BestFitDecreasing_Offline:	259 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	259 (0 bins from optimal solution)
BenMaier_Offline:	259 (0 bins from optimal solution)

N4C2W2\_L:

Oracle:	263
NextFit_Online:	353 (90 bins from optimal solution)
FirstFit_Online:	274 (11 bins from optimal solution)
BestFit_Online:	266 (3 bins from optimal solution)
WorstFit_Online:	310 (47 bins from optimal solution)
RefinedFirstFit_Online:	345 (82 bins from optimal solution)
NextFit_Offline:	349 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	263 (0 bins from optimal solution)
BestFitDecreasing_Offline:	263 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	263 (0 bins from optimal solution)
BenMaier_Offline:	263 (0 bins from optimal solution)

N4C2W2\_M:

Oracle:	261
NextFit_Online:	349 (88 bins from optimal solution)
FirstFit_Online:	272 (11 bins from optimal solution)
BestFit_Online:	265 (4 bins from optimal solution)
WorstFit_Online:	309 (48 bins from optimal solution)
RefinedFirstFit_Online:	341 (80 bins from optimal solution)
NextFit_Offline:	346 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	261 (0 bins from optimal solution)
BestFitDecreasing_Offline:	261 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	261 (0 bins from optimal solution)
BenMaier_Offline:	261 (0 bins from optimal solution)

N4C2W2\_N:

Oracle:	264
NextFit_Online:	359 (95 bins from optimal solution)
FirstFit_Online:	275 (11 bins from optimal solution)
BestFit_Online:	271 (7 bins from optimal solution)
WorstFit_Online:	310 (46 bins from optimal solution)
RefinedFirstFit_Online:	347 (83 bins from optimal solution)
NextFit_Offline:	352 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	265 (1 bins from optimal solution)
BestFitDecreasing_Offline:	265 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	265 (1 bins from optimal solution)
BenMaier_Offline:	265 (1 bins from optimal solution)

N4C2W2\_O:

Oracle:	253
NextFit_Online:	345 (92 bins from optimal solution)
FirstFit_Online:	266 (13 bins from optimal solution)
BestFit_Online:	261 (8 bins from optimal solution)
WorstFit_Online:	299 (46 bins from optimal solution)
RefinedFirstFit_Online:	338 (85 bins from optimal solution)
NextFit_Offline:	344 (91 bins from optimal solution)
FirstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BestFitDecreasing_Offline:	253 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	253 (0 bins from optimal solution)
BenMaier_Offline:	253 (0 bins from optimal solution)

N4C2W2\_P:

Oracle:	266
NextFit_Online:	359 (93 bins from optimal solution)
FirstFit_Online:	277 (11 bins from optimal solution)
BestFit_Online:	269 (3 bins from optimal solution)
WorstFit_Online:	312 (46 bins from optimal solution)
RefinedFirstFit_Online:	348 (82 bins from optimal solution)
NextFit_Offline:	351 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	266 (0 bins from optimal solution)
BestFitDecreasing_Offline:	266 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	266 (0 bins from optimal solution)
BenMaier_Offline:	266 (0 bins from optimal solution)

N4C2W2\_Q:

Oracle:	257
NextFit_Online:	347 (90 bins from optimal solution)
FirstFit_Online:	268 (11 bins from optimal solution)
BestFit_Online:	263 (6 bins from optimal solution)
WorstFit_Online:	302 (45 bins from optimal solution)
RefinedFirstFit_Online:	339 (82 bins from optimal solution)
NextFit_Offline:	344 (87 bins from optimal solution)
FirstFitDecreasing_Offline:	258 (1 bins from optimal solution)
BestFitDecreasing_Offline:	258 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	258 (1 bins from optimal solution)
BenMaier_Offline:	258 (1 bins from optimal solution)

N4C2W2\_R:

Oracle:	256
NextFit_Online:	347 (91 bins from optimal solution)
FirstFit_Online:	267 (11 bins from optimal solution)
BestFit_Online:	261 (5 bins from optimal solution)
WorstFit_Online:	305 (49 bins from optimal solution)
RefinedFirstFit_Online:	342 (86 bins from optimal solution)
NextFit_Offline:	346 (90 bins from optimal solution)
FirstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BestFitDecreasing_Offline:	256 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BenMaier_Offline:	256 (0 bins from optimal solution)

N4C2W2\_S:

Oracle:	273
NextFit_Online:	363 (90 bins from optimal solution)
FirstFit_Online:	280 (7 bins from optimal solution)
BestFit_Online:	276 (3 bins from optimal solution)
WorstFit_Online:	316 (43 bins from optimal solution)
RefinedFirstFit_Online:	354 (81 bins from optimal solution)
NextFit_Offline:	358 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	273 (0 bins from optimal solution)
BestFitDecreasing_Offline:	273 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	273 (0 bins from optimal solution)
BenMaier_Offline:	273 (0 bins from optimal solution)

N4C2W2\_T:

Oracle:	256
NextFit_Online:	342 (86 bins from optimal solution)
FirstFit_Online:	267 (11 bins from optimal solution)
BestFit_Online:	263 (7 bins from optimal solution)
WorstFit_Online:	301 (45 bins from optimal solution)
RefinedFirstFit_Online:	335 (79 bins from optimal solution)
NextFit_Offline:	341 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BestFitDecreasing_Offline:	256 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	256 (0 bins from optimal solution)
BenMaier_Offline:	256 (0 bins from optimal solution)

N4C2W4\_A:

Oracle:	293
NextFit_Online:	390 (97 bins from optimal solution)
FirstFit_Online:	303 (10 bins from optimal solution)
BestFit_Online:	298 (5 bins from optimal solution)
WorstFit_Online:	334 (41 bins from optimal solution)
RefinedFirstFit_Online:	374 (81 bins from optimal solution)
NextFit_Offline:	377 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BestFitDecreasing_Offline:	293 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BenMaier_Offline:	293 (0 bins from optimal solution)

N4C2W4\_B:

Oracle:	281
NextFit_Online:	376 (95 bins from optimal solution)
FirstFit_Online:	291 (10 bins from optimal solution)
BestFit_Online:	286 (5 bins from optimal solution)
WorstFit_Online:	324 (43 bins from optimal solution)
RefinedFirstFit_Online:	365 (84 bins from optimal solution)
NextFit_Offline:	368 (87 bins from optimal solution)
FirstFitDecreasing_Offline:	281 (0 bins from optimal solution)
BestFitDecreasing_Offline:	281 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	282 (1 bins from optimal solution)
BenMaier_Offline:	281 (0 bins from optimal solution)

N4C2W4\_C:

Oracle:	295
NextFit_Online:	391 (96 bins from optimal solution)
FirstFit_Online:	302 (7 bins from optimal solution)
BestFit_Online:	295 (0 bins from optimal solution)
WorstFit_Online:	334 (39 bins from optimal solution)
RefinedFirstFit_Online:	377 (82 bins from optimal solution)
NextFit_Offline:	381 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	295 (0 bins from optimal solution)
BestFitDecreasing_Offline:	295 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	295 (0 bins from optimal solution)
BenMaier_Offline:	295 (0 bins from optimal solution)

N4C2W4\_D:

Oracle:	295
NextFit_Online:	394 (99 bins from optimal solution)
FirstFit_Online:	304 (9 bins from optimal solution)
BestFit_Online:	298 (3 bins from optimal solution)
WorstFit_Online:	338 (43 bins from optimal solution)
RefinedFirstFit_Online:	378 (83 bins from optimal solution)
NextFit_Offline:	383 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	295 (0 bins from optimal solution)
BestFitDecreasing_Offline:	295 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	295 (0 bins from optimal solution)
BenMaier_Offline:	295 (0 bins from optimal solution)

N4C2W4\_E:

Oracle:	287
NextFit_Online:	385 (98 bins from optimal solution)
FirstFit_Online:	297 (10 bins from optimal solution)
BestFit_Online:	294 (7 bins from optimal solution)
WorstFit_Online:	331 (44 bins from optimal solution)
RefinedFirstFit_Online:	367 (80 bins from optimal solution)
NextFit_Offline:	371 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BestFitDecreasing_Offline:	287 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BenMaier_Offline:	287 (0 bins from optimal solution)

N4C2W4\_F:

Oracle:	304
NextFit_Online:	403 (99 bins from optimal solution)
FirstFit_Online:	313 (9 bins from optimal solution)
BestFit_Online:	307 (3 bins from optimal solution)
WorstFit_Online:	346 (42 bins from optimal solution)
RefinedFirstFit_Online:	385 (81 bins from optimal solution)
NextFit_Offline:	388 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	304 (0 bins from optimal solution)
BestFitDecreasing_Offline:	304 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	304 (0 bins from optimal solution)
BenMaier_Offline:	304 (0 bins from optimal solution)

N4C2W4\_G:

Oracle:	291
NextFit_Online:	388 (97 bins from optimal solution)
FirstFit_Online:	300 (9 bins from optimal solution)
BestFit_Online:	297 (6 bins from optimal solution)
WorstFit_Online:	332 (41 bins from optimal solution)
RefinedFirstFit_Online:	373 (82 bins from optimal solution)
NextFit_Offline:	376 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	291 (0 bins from optimal solution)
BestFitDecreasing_Offline:	291 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	291 (0 bins from optimal solution)
BenMaier_Offline:	291 (0 bins from optimal solution)

N4C2W4\_H:

Oracle:	296
NextFit_Online:	393 (97 bins from optimal solution)
FirstFit_Online:	304 (8 bins from optimal solution)
BestFit_Online:	301 (5 bins from optimal solution)
WorstFit_Online:	340 (44 bins from optimal solution)
RefinedFirstFit_Online:	381 (85 bins from optimal solution)
NextFit_Offline:	385 (89 bins from optimal solution)
FirstFitDecreasing_Offline:	296 (0 bins from optimal solution)
BestFitDecreasing_Offline:	296 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	296 (0 bins from optimal solution)
BenMaier_Offline:	296 (0 bins from optimal solution)

N4C2W4\_I:

Oracle:	287
NextFit_Online:	386 (99 bins from optimal solution)
FirstFit_Online:	298 (11 bins from optimal solution)
BestFit_Online:	293 (6 bins from optimal solution)
WorstFit_Online:	332 (45 bins from optimal solution)
RefinedFirstFit_Online:	372 (85 bins from optimal solution)
NextFit_Offline:	376 (89 bins from optimal solution)
FirstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BestFitDecreasing_Offline:	287 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BenMaier_Offline:	287 (0 bins from optimal solution)

N4C2W4\_J:

Oracle:	300
NextFit_Online:	400 (100 bins from optimal solution)
FirstFit_Online:	311 (11 bins from optimal solution)
BestFit_Online:	305 (5 bins from optimal solution)
WorstFit_Online:	343 (43 bins from optimal solution)
RefinedFirstFit_Online:	385 (85 bins from optimal solution)
NextFit_Offline:	389 (89 bins from optimal solution)
FirstFitDecreasing_Offline:	300 (0 bins from optimal solution)
BestFitDecreasing_Offline:	300 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	300 (0 bins from optimal solution)
BenMaier_Offline:	300 (0 bins from optimal solution)

N4C2W4\_K:

Oracle:	289
NextFit_Online:	387 (98 bins from optimal solution)
FirstFit_Online:	299 (10 bins from optimal solution)
BestFit_Online:	296 (7 bins from optimal solution)
WorstFit_Online:	333 (44 bins from optimal solution)
RefinedFirstFit_Online:	369 (80 bins from optimal solution)
NextFit_Offline:	371 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	289 (0 bins from optimal solution)
BestFitDecreasing_Offline:	289 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	289 (0 bins from optimal solution)
BenMaier_Offline:	289 (0 bins from optimal solution)

N4C2W4\_L:

Oracle:	297
NextFit_Online:	393 (96 bins from optimal solution)
FirstFit_Online:	306 (9 bins from optimal solution)
BestFit_Online:	303 (6 bins from optimal solution)
WorstFit_Online:	339 (42 bins from optimal solution)
RefinedFirstFit_Online:	377 (80 bins from optimal solution)
NextFit_Offline:	381 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	297 (0 bins from optimal solution)
BestFitDecreasing_Offline:	297 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	297 (0 bins from optimal solution)
BenMaier_Offline:	297 (0 bins from optimal solution)

N4C2W4\_M:

Oracle:	287
NextFit_Online:	388 (101 bins from optimal solution)
FirstFit_Online:	298 (11 bins from optimal solution)
BestFit_Online:	293 (6 bins from optimal solution)
WorstFit_Online:	333 (46 bins from optimal solution)
RefinedFirstFit_Online:	371 (84 bins from optimal solution)
NextFit_Offline:	373 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BestFitDecreasing_Offline:	287 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BenMaier_Offline:	287 (0 bins from optimal solution)

N4C2W4\_N:

Oracle:	299
NextFit_Online:	398 (99 bins from optimal solution)
FirstFit_Online:	310 (11 bins from optimal solution)
BestFit_Online:	305 (6 bins from optimal solution)
WorstFit_Online:	342 (43 bins from optimal solution)
RefinedFirstFit_Online:	382 (83 bins from optimal solution)
NextFit_Offline:	386 (87 bins from optimal solution)
FirstFitDecreasing_Offline:	299 (0 bins from optimal solution)
BestFitDecreasing_Offline:	299 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	299 (0 bins from optimal solution)
BenMaier_Offline:	299 (0 bins from optimal solution)

N4C2W4\_O:

Oracle:	293
NextFit_Online:	390 (97 bins from optimal solution)
FirstFit_Online:	302 (9 bins from optimal solution)
BestFit_Online:	297 (4 bins from optimal solution)
WorstFit_Online:	333 (40 bins from optimal solution)
RefinedFirstFit_Online:	372 (79 bins from optimal solution)
NextFit_Offline:	375 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BestFitDecreasing_Offline:	293 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BenMaier_Offline:	293 (0 bins from optimal solution)

N4C2W4\_P:

Oracle:	301
NextFit_Online:	400 (99 bins from optimal solution)
FirstFit_Online:	311 (10 bins from optimal solution)
BestFit_Online:	304 (3 bins from optimal solution)
WorstFit_Online:	343 (42 bins from optimal solution)
RefinedFirstFit_Online:	381 (80 bins from optimal solution)
NextFit_Offline:	385 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	301 (0 bins from optimal solution)
BestFitDecreasing_Offline:	301 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	301 (0 bins from optimal solution)
BenMaier_Offline:	301 (0 bins from optimal solution)

N4C2W4\_Q:

Oracle:	293
NextFit_Online:	391 (98 bins from optimal solution)
FirstFit_Online:	302 (9 bins from optimal solution)
BestFit_Online:	296 (3 bins from optimal solution)
WorstFit_Online:	336 (43 bins from optimal solution)
RefinedFirstFit_Online:	376 (83 bins from optimal solution)
NextFit_Offline:	377 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BestFitDecreasing_Offline:	293 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BenMaier_Offline:	293 (0 bins from optimal solution)



N4C2W4\_R:

Oracle:	300
NextFit_Online:	392 (92 bins from optimal solution)
FirstFit_Online:	308 (8 bins from optimal solution)
BestFit_Online:	302 (2 bins from optimal solution)
WorstFit_Online:	339 (39 bins from optimal solution)
RefinedFirstFit_Online:	383 (83 bins from optimal solution)
NextFit_Offline:	386 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	300 (0 bins from optimal solution)
BestFitDecreasing_Offline:	300 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	300 (0 bins from optimal solution)
BenMaier_Offline:	300 (0 bins from optimal solution)

N4C2W4\_S:

Oracle:	293
NextFit_Online:	390 (97 bins from optimal solution)
FirstFit_Online:	302 (9 bins from optimal solution)
BestFit_Online:	295 (2 bins from optimal solution)
WorstFit_Online:	336 (43 bins from optimal solution)
RefinedFirstFit_Online:	377 (84 bins from optimal solution)
NextFit_Offline:	381 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BestFitDecreasing_Offline:	293 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	293 (0 bins from optimal solution)
BenMaier_Offline:	293 (0 bins from optimal solution)

N4C2W4\_T:

Oracle:	287
NextFit_Online:	386 (99 bins from optimal solution)
FirstFit_Online:	299 (12 bins from optimal solution)
BestFit_Online:	292 (5 bins from optimal solution)
WorstFit_Online:	333 (46 bins from optimal solution)
RefinedFirstFit_Online:	374 (87 bins from optimal solution)
NextFit_Offline:	377 (90 bins from optimal solution)
FirstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BestFitDecreasing_Offline:	287 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	287 (0 bins from optimal solution)
BenMaier_Offline:	287 (0 bins from optimal solution)

N4C3W1\_A:

Oracle:	164
NextFit_Online:	211 (47 bins from optimal solution)
FirstFit_Online:	171 (7 bins from optimal solution)
BestFit_Online:	169 (5 bins from optimal solution)
WorstFit_Online:	186 (22 bins from optimal solution)
RefinedFirstFit_Online:	217 (53 bins from optimal solution)
NextFit_Offline:	226 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	164 (0 bins from optimal solution)
BestFitDecreasing_Offline:	164 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	165 (1 bins from optimal solution)
BenMaier_Offline:	164 (0 bins from optimal solution)

N4C3W1\_B:

Oracle:	165
NextFit_Online:	213 (48 bins from optimal solution)
FirstFit_Online:	171 (6 bins from optimal solution)
BestFit_Online:	170 (5 bins from optimal solution)
WorstFit_Online:	186 (21 bins from optimal solution)
RefinedFirstFit_Online:	217 (52 bins from optimal solution)
NextFit_Offline:	226 (61 bins from optimal solution)
FirstFitDecreasing_Offline:	165 (0 bins from optimal solution)
BestFitDecreasing_Offline:	165 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	165 (0 bins from optimal solution)
BenMaier_Offline:	165 (0 bins from optimal solution)

N4C3W1\_C:

Oracle:	166
NextFit_Online:	215 (49 bins from optimal solution)
FirstFit_Online:	172 (6 bins from optimal solution)
BestFit_Online:	171 (5 bins from optimal solution)
WorstFit_Online:	188 (22 bins from optimal solution)
RefinedFirstFit_Online:	218 (52 bins from optimal solution)
NextFit_Offline:	226 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	166 (0 bins from optimal solution)
BestFitDecreasing_Offline:	166 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	166 (0 bins from optimal solution)
BenMaier_Offline:	166 (0 bins from optimal solution)

N4C3W1\_D:

Oracle:	158
NextFit_Online:	205 (47 bins from optimal solution)
FirstFit_Online:	162 (4 bins from optimal solution)
BestFit_Online:	161 (3 bins from optimal solution)
WorstFit_Online:	178 (20 bins from optimal solution)
RefinedFirstFit_Online:	206 (48 bins from optimal solution)
NextFit_Offline:	214 (56 bins from optimal solution)
FirstFitDecreasing_Offline:	158 (0 bins from optimal solution)
BestFitDecreasing_Offline:	158 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	158 (0 bins from optimal solution)
BenMaier_Offline:	158 (0 bins from optimal solution)

N4C3W1\_E:

Oracle:	165
NextFit_Online:	216 (51 bins from optimal solution)
FirstFit_Online:	171 (6 bins from optimal solution)
BestFit_Online:	171 (6 bins from optimal solution)
WorstFit_Online:	187 (22 bins from optimal solution)
RefinedFirstFit_Online:	224 (59 bins from optimal solution)
NextFit_Offline:	231 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	165 (0 bins from optimal solution)
BestFitDecreasing_Offline:	165 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	167 (2 bins from optimal solution)
BenMaier_Offline:	165 (0 bins from optimal solution)

N4C3W1\_F:

Oracle:	164
NextFit_Online:	210 (46 bins from optimal solution)
FirstFit_Online:	170 (6 bins from optimal solution)
BestFit_Online:	169 (5 bins from optimal solution)
WorstFit_Online:	185 (21 bins from optimal solution)
RefinedFirstFit_Online:	220 (56 bins from optimal solution)
NextFit_Offline:	227 (63 bins from optimal solution)
FirstFitDecreasing_Offline:	164 (0 bins from optimal solution)
BestFitDecreasing_Offline:	164 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	165 (1 bins from optimal solution)
BenMaier_Offline:	164 (0 bins from optimal solution)

N4C3W1\_G:

Oracle:	169
NextFit_Online:	221 (52 bins from optimal solution)
FirstFit_Online:	176 (7 bins from optimal solution)
BestFit_Online:	175 (6 bins from optimal solution)
WorstFit_Online:	193 (24 bins from optimal solution)
RefinedFirstFit_Online:	230 (61 bins from optimal solution)
NextFit_Offline:	236 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	169 (0 bins from optimal solution)
BestFitDecreasing_Offline:	169 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	171 (2 bins from optimal solution)
BenMaier_Offline:	169 (0 bins from optimal solution)

N4C3W1\_H:

Oracle:	170
NextFit_Online:	225 (55 bins from optimal solution)
FirstFit_Online:	177 (7 bins from optimal solution)
BestFit_Online:	176 (6 bins from optimal solution)
WorstFit_Online:	196 (26 bins from optimal solution)
RefinedFirstFit_Online:	233 (63 bins from optimal solution)
NextFit_Offline:	240 (70 bins from optimal solution)
FirstFitDecreasing_Offline:	170 (0 bins from optimal solution)
BestFitDecreasing_Offline:	170 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	172 (2 bins from optimal solution)
BenMaier_Offline:	170 (0 bins from optimal solution)

N4C3W1\_I:

Oracle:	167
NextFit_Online:	218 (51 bins from optimal solution)
FirstFit_Online:	173 (6 bins from optimal solution)
BestFit_Online:	172 (5 bins from optimal solution)
WorstFit_Online:	188 (21 bins from optimal solution)
RefinedFirstFit_Online:	225 (58 bins from optimal solution)
NextFit_Offline:	232 (65 bins from optimal solution)
FirstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BestFitDecreasing_Offline:	168 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BenMaier_Offline:	168 (1 bins from optimal solution)

N4C3W1\_J:

Oracle:	169
NextFit_Online:	221 (52 bins from optimal solution)
FirstFit_Online:	176 (7 bins from optimal solution)
BestFit_Online:	174 (5 bins from optimal solution)
WorstFit_Online:	192 (23 bins from optimal solution)
RefinedFirstFit_Online:	229 (60 bins from optimal solution)
NextFit_Offline:	236 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	169 (0 bins from optimal solution)
BestFitDecreasing_Offline:	169 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	170 (1 bins from optimal solution)
BenMaier_Offline:	169 (0 bins from optimal solution)

N4C3W1\_K:

Oracle:	164
NextFit_Online:	210 (46 bins from optimal solution)
FirstFit_Online:	170 (6 bins from optimal solution)
BestFit_Online:	169 (5 bins from optimal solution)
WorstFit_Online:	185 (21 bins from optimal solution)
RefinedFirstFit_Online:	220 (56 bins from optimal solution)
NextFit_Offline:	227 (63 bins from optimal solution)
FirstFitDecreasing_Offline:	164 (0 bins from optimal solution)
BestFitDecreasing_Offline:	164 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	165 (1 bins from optimal solution)
BenMaier_Offline:	164 (0 bins from optimal solution)

N4C3W1\_L:

Oracle:	163
NextFit_Online:	211 (48 bins from optimal solution)
FirstFit_Online:	169 (6 bins from optimal solution)
BestFit_Online:	169 (6 bins from optimal solution)
WorstFit_Online:	184 (21 bins from optimal solution)
RefinedFirstFit_Online:	214 (51 bins from optimal solution)
NextFit_Offline:	222 (59 bins from optimal solution)
FirstFitDecreasing_Offline:	163 (0 bins from optimal solution)
BestFitDecreasing_Offline:	163 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	164 (1 bins from optimal solution)
BenMaier_Offline:	163 (0 bins from optimal solution)

N4C3W1\_M:

Oracle:	167
NextFit_Online:	217 (50 bins from optimal solution)
FirstFit_Online:	173 (6 bins from optimal solution)
BestFit_Online:	171 (4 bins from optimal solution)
WorstFit_Online:	189 (22 bins from optimal solution)
RefinedFirstFit_Online:	221 (54 bins from optimal solution)
NextFit_Offline:	227 (60 bins from optimal solution)
FirstFitDecreasing_Offline:	167 (0 bins from optimal solution)
BestFitDecreasing_Offline:	167 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BenMaier_Offline:	167 (0 bins from optimal solution)

N4C3W1\_N:

Oracle:	176
NextFit_Online:	235 (59 bins from optimal solution)
FirstFit_Online:	183 (7 bins from optimal solution)
BestFit_Online:	182 (6 bins from optimal solution)
WorstFit_Online:	204 (28 bins from optimal solution)
RefinedFirstFit_Online:	242 (66 bins from optimal solution)
NextFit_Offline:	249 (73 bins from optimal solution)
FirstFitDecreasing_Offline:	176 (0 bins from optimal solution)
BestFitDecreasing_Offline:	176 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	177 (1 bins from optimal solution)
BenMaier_Offline:	176 (0 bins from optimal solution)

N4C3W1\_O:

Oracle:	169
NextFit_Online:	221 (52 bins from optimal solution)
FirstFit_Online:	175 (6 bins from optimal solution)
BestFit_Online:	173 (4 bins from optimal solution)
WorstFit_Online:	193 (24 bins from optimal solution)
RefinedFirstFit_Online:	228 (59 bins from optimal solution)
NextFit_Offline:	236 (67 bins from optimal solution)
FirstFitDecreasing_Offline:	169 (0 bins from optimal solution)
BestFitDecreasing_Offline:	169 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	169 (0 bins from optimal solution)
BenMaier_Offline:	169 (0 bins from optimal solution)

N4C3W1\_P:

Oracle:	167
NextFit_Online:	216 (49 bins from optimal solution)
FirstFit_Online:	173 (6 bins from optimal solution)
BestFit_Online:	171 (4 bins from optimal solution)
WorstFit_Online:	190 (23 bins from optimal solution)
RefinedFirstFit_Online:	222 (55 bins from optimal solution)
NextFit_Offline:	229 (62 bins from optimal solution)
FirstFitDecreasing_Offline:	167 (0 bins from optimal solution)
BestFitDecreasing_Offline:	167 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BenMaier_Offline:	167 (0 bins from optimal solution)

N4C3W1\_Q:

Oracle:	176
NextFit_Online:	231 (55 bins from optimal solution)
FirstFit_Online:	183 (7 bins from optimal solution)
BestFit_Online:	181 (5 bins from optimal solution)
WorstFit_Online:	201 (25 bins from optimal solution)
RefinedFirstFit_Online:	238 (62 bins from optimal solution)
NextFit_Offline:	247 (71 bins from optimal solution)
FirstFitDecreasing_Offline:	176 (0 bins from optimal solution)
BestFitDecreasing_Offline:	176 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	176 (0 bins from optimal solution)
BenMaier_Offline:	176 (0 bins from optimal solution)

N4C3W1\_R:

Oracle:	167
NextFit_Online:	217 (50 bins from optimal solution)
FirstFit_Online:	173 (6 bins from optimal solution)
BestFit_Online:	172 (5 bins from optimal solution)
WorstFit_Online:	189 (22 bins from optimal solution)
RefinedFirstFit_Online:	224 (57 bins from optimal solution)
NextFit_Offline:	232 (65 bins from optimal solution)
FirstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BestFitDecreasing_Offline:	168 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	168 (1 bins from optimal solution)
BenMaier_Offline:	168 (1 bins from optimal solution)

N4C3W1\_S:

Oracle:	168
NextFit_Online:	217 (49 bins from optimal solution)
FirstFit_Online:	174 (6 bins from optimal solution)
BestFit_Online:	174 (6 bins from optimal solution)
WorstFit_Online:	191 (23 bins from optimal solution)
RefinedFirstFit_Online:	227 (59 bins from optimal solution)
NextFit_Offline:	234 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	168 (0 bins from optimal solution)
BestFitDecreasing_Offline:	168 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	169 (1 bins from optimal solution)
BenMaier_Offline:	168 (0 bins from optimal solution)

N4C3W1\_T:

Oracle:	173
NextFit_Online:	227 (54 bins from optimal solution)
FirstFit_Online:	179 (6 bins from optimal solution)
BestFit_Online:	178 (5 bins from optimal solution)
WorstFit_Online:	198 (25 bins from optimal solution)
RefinedFirstFit_Online:	232 (59 bins from optimal solution)
NextFit_Offline:	239 (66 bins from optimal solution)
FirstFitDecreasing_Offline:	173 (0 bins from optimal solution)
BestFitDecreasing_Offline:	173 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	174 (1 bins from optimal solution)
BenMaier_Offline:	173 (0 bins from optimal solution)

N4C3W2\_A:

Oracle:	203
NextFit_Online:	266 (63 bins from optimal solution)
FirstFit_Online:	216 (13 bins from optimal solution)
BestFit_Online:	216 (13 bins from optimal solution)
WorstFit_Online:	236 (33 bins from optimal solution)
RefinedFirstFit_Online:	279 (76 bins from optimal solution)
NextFit_Offline:	285 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	206 (3 bins from optimal solution)
BestFitDecreasing_Offline:	206 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	207 (4 bins from optimal solution)
BenMaier_Offline:	206 (3 bins from optimal solution)

N4C3W2\_B:

Oracle:	203
NextFit_Online:	267 (64 bins from optimal solution)
FirstFit_Online:	216 (13 bins from optimal solution)
BestFit_Online:	214 (11 bins from optimal solution)
WorstFit_Online:	234 (31 bins from optimal solution)
RefinedFirstFit_Online:	282 (79 bins from optimal solution)
NextFit_Offline:	288 (85 bins from optimal solution)
FirstFitDecreasing_Offline:	205 (2 bins from optimal solution)
BestFitDecreasing_Offline:	205 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	206 (3 bins from optimal solution)
BenMaier_Offline:	205 (2 bins from optimal solution)

N4C3W2\_C:

Oracle:	201
NextFit_Online:	265 (64 bins from optimal solution)
FirstFit_Online:	213 (12 bins from optimal solution)
BestFit_Online:	213 (12 bins from optimal solution)
WorstFit_Online:	232 (31 bins from optimal solution)
RefinedFirstFit_Online:	275 (74 bins from optimal solution)
NextFit_Offline:	283 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BestFitDecreasing_Offline:	204 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BenMaier_Offline:	204 (3 bins from optimal solution)

N4C3W2\_D:

Oracle:	201
NextFit_Online:	261 (60 bins from optimal solution)
FirstFit_Online:	213 (12 bins from optimal solution)
BestFit_Online:	212 (11 bins from optimal solution)
WorstFit_Online:	230 (29 bins from optimal solution)
RefinedFirstFit_Online:	277 (76 bins from optimal solution)
NextFit_Offline:	284 (83 bins from optimal solution)
FirstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BestFitDecreasing_Offline:	204 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BenMaier_Offline:	204 (3 bins from optimal solution)

N4C3W2\_E:

Oracle:	200
NextFit_Online:	259 (59 bins from optimal solution)
FirstFit_Online:	213 (13 bins from optimal solution)
BestFit_Online:	211 (11 bins from optimal solution)
WorstFit_Online:	229 (29 bins from optimal solution)
RefinedFirstFit_Online:	273 (73 bins from optimal solution)
NextFit_Offline:	280 (80 bins from optimal solution)
FirstFitDecreasing_Offline:	203 (3 bins from optimal solution)
BestFitDecreasing_Offline:	203 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (4 bins from optimal solution)
BenMaier_Offline:	203 (3 bins from optimal solution)

N4C3W2\_F:

Oracle:	209
NextFit_Online:	279 (70 bins from optimal solution)
FirstFit_Online:	223 (14 bins from optimal solution)
BestFit_Online:	220 (11 bins from optimal solution)
WorstFit_Online:	241 (32 bins from optimal solution)
RefinedFirstFit_Online:	290 (81 bins from optimal solution)
NextFit_Offline:	297 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	211 (2 bins from optimal solution)
BestFitDecreasing_Offline:	211 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	214 (5 bins from optimal solution)
BenMaier_Offline:	211 (2 bins from optimal solution)

N4C3W2\_G:

Oracle:	201
NextFit_Online:	262 (61 bins from optimal solution)
FirstFit_Online:	213 (12 bins from optimal solution)
BestFit_Online:	213 (12 bins from optimal solution)
WorstFit_Online:	229 (28 bins from optimal solution)
RefinedFirstFit_Online:	273 (72 bins from optimal solution)
NextFit_Offline:	280 (79 bins from optimal solution)
FirstFitDecreasing_Offline:	203 (2 bins from optimal solution)
BestFitDecreasing_Offline:	203 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BenMaier_Offline:	203 (2 bins from optimal solution)

N4C3W2\_H:

Oracle:	201
NextFit_Online:	262 (61 bins from optimal solution)
FirstFit_Online:	213 (12 bins from optimal solution)
BestFit_Online:	212 (11 bins from optimal solution)
WorstFit_Online:	231 (30 bins from optimal solution)
RefinedFirstFit_Online:	274 (73 bins from optimal solution)
NextFit_Offline:	281 (80 bins from optimal solution)
FirstFitDecreasing_Offline:	203 (2 bins from optimal solution)
BestFitDecreasing_Offline:	203 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BenMaier_Offline:	203 (2 bins from optimal solution)

N4C3W2\_I:

Oracle:	198
NextFit_Online:	256 (58 bins from optimal solution)
FirstFit_Online:	210 (12 bins from optimal solution)
BestFit_Online:	210 (12 bins from optimal solution)
WorstFit_Online:	226 (28 bins from optimal solution)
RefinedFirstFit_Online:	268 (70 bins from optimal solution)
NextFit_Offline:	275 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	200 (2 bins from optimal solution)
BestFitDecreasing_Offline:	200 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	200 (2 bins from optimal solution)
BenMaier_Offline:	200 (2 bins from optimal solution)



N4C3W2\_J:

Oracle:	204
NextFit_Online:	267 (63 bins from optimal solution)
FirstFit_Online:	217 (13 bins from optimal solution)
BestFit_Online:	215 (11 bins from optimal solution)
WorstFit_Online:	233 (29 bins from optimal solution)
RefinedFirstFit_Online:	281 (77 bins from optimal solution)
NextFit_Offline:	288 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	206 (2 bins from optimal solution)
BestFitDecreasing_Offline:	206 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	208 (4 bins from optimal solution)
BenMaier_Offline:	206 (2 bins from optimal solution)

N4C3W2\_K:

Oracle:	204
NextFit_Online:	269 (65 bins from optimal solution)
FirstFit_Online:	218 (14 bins from optimal solution)
BestFit_Online:	216 (12 bins from optimal solution)
WorstFit_Online:	236 (32 bins from optimal solution)
RefinedFirstFit_Online:	282 (78 bins from optimal solution)
NextFit_Offline:	288 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	207 (3 bins from optimal solution)
BestFitDecreasing_Offline:	207 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	207 (3 bins from optimal solution)
BenMaier_Offline:	207 (3 bins from optimal solution)

N4C3W2\_L:

Oracle:	201
NextFit_Online:	264 (63 bins from optimal solution)
FirstFit_Online:	214 (13 bins from optimal solution)
BestFit_Online:	213 (12 bins from optimal solution)
WorstFit_Online:	231 (30 bins from optimal solution)
RefinedFirstFit_Online:	277 (76 bins from optimal solution)
NextFit_Offline:	283 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	204 (3 bins from optimal solution)
BestFitDecreasing_Offline:	204 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	205 (4 bins from optimal solution)
BenMaier_Offline:	204 (3 bins from optimal solution)

N4C3W2\_M:

Oracle:	198
NextFit_Online:	255 (57 bins from optimal solution)
FirstFit_Online:	208 (10 bins from optimal solution)
BestFit_Online:	209 (11 bins from optimal solution)
WorstFit_Online:	228 (30 bins from optimal solution)
RefinedFirstFit_Online:	272 (74 bins from optimal solution)
NextFit_Offline:	278 (80 bins from optimal solution)
FirstFitDecreasing_Offline:	200 (2 bins from optimal solution)
BestFitDecreasing_Offline:	200 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	200 (2 bins from optimal solution)
BenMaier_Offline:	200 (2 bins from optimal solution)

N4C3W2\_N:

Oracle:	198
NextFit_Online:	257 (59 bins from optimal solution)
FirstFit_Online:	209 (11 bins from optimal solution)
BestFit_Online:	210 (12 bins from optimal solution)
WorstFit_Online:	227 (29 bins from optimal solution)
RefinedFirstFit_Online:	271 (73 bins from optimal solution)
NextFit_Offline:	279 (81 bins from optimal solution)
FirstFitDecreasing_Offline:	201 (3 bins from optimal solution)
BestFitDecreasing_Offline:	201 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	201 (3 bins from optimal solution)
BenMaier_Offline:	201 (3 bins from optimal solution)

N4C3W2\_O:

Oracle:	209
NextFit_Online:	274 (65 bins from optimal solution)
FirstFit_Online:	223 (14 bins from optimal solution)
BestFit_Online:	221 (12 bins from optimal solution)
WorstFit_Online:	243 (34 bins from optimal solution)
RefinedFirstFit_Online:	287 (78 bins from optimal solution)
NextFit_Offline:	295 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	211 (2 bins from optimal solution)
BestFitDecreasing_Offline:	211 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	211 (2 bins from optimal solution)
BenMaier_Offline:	211 (2 bins from optimal solution)

N4C3W2\_P:

Oracle:	202
NextFit_Online:	265 (63 bins from optimal solution)
FirstFit_Online:	213 (11 bins from optimal solution)
BestFit_Online:	213 (11 bins from optimal solution)
WorstFit_Online:	231 (29 bins from optimal solution)
RefinedFirstFit_Online:	277 (75 bins from optimal solution)
NextFit_Offline:	284 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	204 (2 bins from optimal solution)
BestFitDecreasing_Offline:	204 (2 bins from optimal solution)
WorstFitDecreasing_Offline:	205 (3 bins from optimal solution)
BenMaier_Offline:	204 (2 bins from optimal solution)

N4C3W2\_Q:

Oracle:	199
NextFit_Online:	256 (57 bins from optimal solution)
FirstFit_Online:	210 (11 bins from optimal solution)
BestFit_Online:	211 (12 bins from optimal solution)
WorstFit_Online:	229 (30 bins from optimal solution)
RefinedFirstFit_Online:	275 (76 bins from optimal solution)
NextFit_Offline:	281 (82 bins from optimal solution)
FirstFitDecreasing_Offline:	202 (3 bins from optimal solution)
BestFitDecreasing_Offline:	202 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	203 (4 bins from optimal solution)
BenMaier_Offline:	202 (3 bins from optimal solution)

N4C3W2\_R:

Oracle:	194
NextFit_Online:	249 (55 bins from optimal solution)
FirstFit_Online:	205 (11 bins from optimal solution)
BestFit_Online:	205 (11 bins from optimal solution)
WorstFit_Online:	222 (28 bins from optimal solution)
RefinedFirstFit_Online:	265 (71 bins from optimal solution)
NextFit_Offline:	272 (78 bins from optimal solution)
FirstFitDecreasing_Offline:	197 (3 bins from optimal solution)
BestFitDecreasing_Offline:	197 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	197 (3 bins from optimal solution)
BenMaier_Offline:	197 (3 bins from optimal solution)

N4C3W2\_S:

Oracle:	196
NextFit_Online:	254 (58 bins from optimal solution)
FirstFit_Online:	209 (13 bins from optimal solution)
BestFit_Online:	208 (12 bins from optimal solution)
WorstFit_Online:	226 (30 bins from optimal solution)
RefinedFirstFit_Online:	269 (73 bins from optimal solution)
NextFit_Offline:	277 (81 bins from optimal solution)
FirstFitDecreasing_Offline:	199 (3 bins from optimal solution)
BestFitDecreasing_Offline:	199 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	199 (3 bins from optimal solution)
BenMaier_Offline:	199 (3 bins from optimal solution)

N4C3W2\_T:

Oracle:	195
NextFit_Online:	252 (57 bins from optimal solution)
FirstFit_Online:	206 (11 bins from optimal solution)
BestFit_Online:	206 (11 bins from optimal solution)
WorstFit_Online:	221 (26 bins from optimal solution)
RefinedFirstFit_Online:	265 (70 bins from optimal solution)
NextFit_Offline:	272 (77 bins from optimal solution)
FirstFitDecreasing_Offline:	198 (3 bins from optimal solution)
BestFitDecreasing_Offline:	198 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	198 (3 bins from optimal solution)
BenMaier_Offline:	198 (3 bins from optimal solution)

N4C3W4\_A:

Oracle:	216
NextFit_Online:	287 (71 bins from optimal solution)
FirstFit_Online:	235 (19 bins from optimal solution)
BestFit_Online:	234 (18 bins from optimal solution)
WorstFit_Online:	250 (34 bins from optimal solution)
RefinedFirstFit_Online:	300 (84 bins from optimal solution)
NextFit_Offline:	308 (92 bins from optimal solution)
FirstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BestFitDecreasing_Offline:	220 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BenMaier_Offline:	220 (4 bins from optimal solution)

N4C3W4\_B:

Oracle:	215
NextFit_Online:	280 (65 bins from optimal solution)
FirstFit_Online:	232 (17 bins from optimal solution)
BestFit_Online:	232 (17 bins from optimal solution)
WorstFit_Online:	244 (29 bins from optimal solution)
RefinedFirstFit_Online:	294 (79 bins from optimal solution)
NextFit_Offline:	301 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	219 (4 bins from optimal solution)
BestFitDecreasing_Offline:	219 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	219 (4 bins from optimal solution)
BenMaier_Offline:	219 (4 bins from optimal solution)

N4C3W4\_C:

Oracle:	218
NextFit_Online:	288 (70 bins from optimal solution)
FirstFit_Online:	236 (18 bins from optimal solution)
BestFit_Online:	236 (18 bins from optimal solution)
WorstFit_Online:	250 (32 bins from optimal solution)
RefinedFirstFit_Online:	305 (87 bins from optimal solution)
NextFit_Offline:	310 (92 bins from optimal solution)
FirstFitDecreasing_Offline:	222 (4 bins from optimal solution)
BestFitDecreasing_Offline:	222 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	222 (4 bins from optimal solution)
BenMaier_Offline:	222 (4 bins from optimal solution)

N4C3W4\_D:

Oracle:	215
NextFit_Online:	283 (68 bins from optimal solution)
FirstFit_Online:	233 (18 bins from optimal solution)
BestFit_Online:	233 (18 bins from optimal solution)
WorstFit_Online:	247 (32 bins from optimal solution)
RefinedFirstFit_Online:	298 (83 bins from optimal solution)
NextFit_Offline:	304 (89 bins from optimal solution)
FirstFitDecreasing_Offline:	219 (4 bins from optimal solution)
BestFitDecreasing_Offline:	219 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	219 (4 bins from optimal solution)
BenMaier_Offline:	219 (4 bins from optimal solution)

N4C3W4\_E:

Oracle:	219
NextFit_Online:	292 (73 bins from optimal solution)
FirstFit_Online:	237 (18 bins from optimal solution)
BestFit_Online:	238 (19 bins from optimal solution)
WorstFit_Online:	251 (32 bins from optimal solution)
RefinedFirstFit_Online:	300 (81 bins from optimal solution)
NextFit_Offline:	307 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	222 (3 bins from optimal solution)
BestFitDecreasing_Offline:	222 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	222 (3 bins from optimal solution)
BenMaier_Offline:	222 (3 bins from optimal solution)

N4C3W4\_F:

Oracle:	222
NextFit_Online:	298 (76 bins from optimal solution)
FirstFit_Online:	239 (17 bins from optimal solution)
BestFit_Online:	238 (16 bins from optimal solution)
WorstFit_Online:	254 (32 bins from optimal solution)
RefinedFirstFit_Online:	311 (89 bins from optimal solution)
NextFit_Offline:	316 (94 bins from optimal solution)
FirstFitDecreasing_Offline:	227 (5 bins from optimal solution)
BestFitDecreasing_Offline:	227 (5 bins from optimal solution)
WorstFitDecreasing_Offline:	227 (5 bins from optimal solution)
BenMaier_Offline:	227 (5 bins from optimal solution)

N4C3W4\_G:

Oracle:	222
NextFit_Online:	298 (76 bins from optimal solution)
FirstFit_Online:	240 (18 bins from optimal solution)
BestFit_Online:	239 (17 bins from optimal solution)
WorstFit_Online:	257 (35 bins from optimal solution)
RefinedFirstFit_Online:	307 (85 bins from optimal solution)
NextFit_Offline:	313 (91 bins from optimal solution)
FirstFitDecreasing_Offline:	226 (4 bins from optimal solution)
BestFitDecreasing_Offline:	226 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	226 (4 bins from optimal solution)
BenMaier_Offline:	226 (4 bins from optimal solution)

N4C3W4\_H:

Oracle:	219
NextFit_Online:	295 (76 bins from optimal solution)
FirstFit_Online:	239 (20 bins from optimal solution)
BestFit_Online:	239 (20 bins from optimal solution)
WorstFit_Online:	252 (33 bins from optimal solution)
RefinedFirstFit_Online:	308 (89 bins from optimal solution)
NextFit_Offline:	314 (95 bins from optimal solution)
FirstFitDecreasing_Offline:	223 (4 bins from optimal solution)
BestFitDecreasing_Offline:	223 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	223 (4 bins from optimal solution)
BenMaier_Offline:	223 (4 bins from optimal solution)

N4C3W4\_I:

Oracle:	224
NextFit_Online:	301 (77 bins from optimal solution)
FirstFit_Online:	241 (17 bins from optimal solution)
BestFit_Online:	241 (17 bins from optimal solution)
WorstFit_Online:	260 (36 bins from optimal solution)
RefinedFirstFit_Online:	314 (90 bins from optimal solution)
NextFit_Offline:	320 (96 bins from optimal solution)
FirstFitDecreasing_Offline:	228 (4 bins from optimal solution)
BestFitDecreasing_Offline:	228 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	228 (4 bins from optimal solution)
BenMaier_Offline:	228 (4 bins from optimal solution)

N4C3W4\_J:

Oracle:	213
NextFit_Online:	273 (60 bins from optimal solution)
FirstFit_Online:	230 (17 bins from optimal solution)
BestFit_Online:	229 (16 bins from optimal solution)
WorstFit_Online:	242 (29 bins from optimal solution)
RefinedFirstFit_Online:	290 (77 bins from optimal solution)
NextFit_Offline:	296 (83 bins from optimal solution)
FirstFitDecreasing_Offline:	217 (4 bins from optimal solution)
BestFitDecreasing_Offline:	217 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	217 (4 bins from optimal solution)
BenMaier_Offline:	217 (4 bins from optimal solution)

N4C3W4\_K:

Oracle:	215
NextFit_Online:	278 (63 bins from optimal solution)
FirstFit_Online:	232 (17 bins from optimal solution)
BestFit_Online:	231 (16 bins from optimal solution)
WorstFit_Online:	245 (30 bins from optimal solution)
RefinedFirstFit_Online:	294 (79 bins from optimal solution)
NextFit_Offline:	299 (84 bins from optimal solution)
FirstFitDecreasing_Offline:	218 (3 bins from optimal solution)
BestFitDecreasing_Offline:	218 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	218 (3 bins from optimal solution)
BenMaier_Offline:	218 (3 bins from optimal solution)

N4C3W4\_L:

Oracle:	219
NextFit_Online:	289 (70 bins from optimal solution)
FirstFit_Online:	238 (19 bins from optimal solution)
BestFit_Online:	237 (18 bins from optimal solution)
WorstFit_Online:	250 (31 bins from optimal solution)
RefinedFirstFit_Online:	301 (82 bins from optimal solution)
NextFit_Offline:	307 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	222 (3 bins from optimal solution)
BestFitDecreasing_Offline:	222 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	223 (4 bins from optimal solution)
BenMaier_Offline:	222 (3 bins from optimal solution)

N4C3W4\_M:

Oracle:	216
NextFit_Online:	283 (67 bins from optimal solution)
FirstFit_Online:	234 (18 bins from optimal solution)
BestFit_Online:	233 (17 bins from optimal solution)
WorstFit_Online:	247 (31 bins from optimal solution)
RefinedFirstFit_Online:	299 (83 bins from optimal solution)
NextFit_Offline:	306 (90 bins from optimal solution)
FirstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BestFitDecreasing_Offline:	220 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BenMaier_Offline:	220 (4 bins from optimal solution)

N4C3W4\_N:

Oracle:	225
NextFit_Online:	302 (77 bins from optimal solution)
FirstFit_Online:	241 (16 bins from optimal solution)
BestFit_Online:	242 (17 bins from optimal solution)
WorstFit_Online:	263 (38 bins from optimal solution)
RefinedFirstFit_Online:	317 (92 bins from optimal solution)
NextFit_Offline:	322 (97 bins from optimal solution)
FirstFitDecreasing_Offline:	229 (4 bins from optimal solution)
BestFitDecreasing_Offline:	229 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	229 (4 bins from optimal solution)
BenMaier_Offline:	229 (4 bins from optimal solution)

N4C3W4\_O:

Oracle:	226
NextFit_Online:	306 (80 bins from optimal solution)
FirstFit_Online:	243 (17 bins from optimal solution)
BestFit_Online:	242 (16 bins from optimal solution)
WorstFit_Online:	264 (38 bins from optimal solution)
RefinedFirstFit_Online:	318 (92 bins from optimal solution)
NextFit_Offline:	324 (98 bins from optimal solution)
FirstFitDecreasing_Offline:	230 (4 bins from optimal solution)
BestFitDecreasing_Offline:	230 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	230 (4 bins from optimal solution)
BenMaier_Offline:	230 (4 bins from optimal solution)

N4C3W4\_P:

Oracle:	219
NextFit_Online:	289 (70 bins from optimal solution)
FirstFit_Online:	236 (17 bins from optimal solution)
BestFit_Online:	236 (17 bins from optimal solution)
WorstFit_Online:	249 (30 bins from optimal solution)
RefinedFirstFit_Online:	304 (85 bins from optimal solution)
NextFit_Offline:	310 (91 bins from optimal solution)
FirstFitDecreasing_Offline:	223 (4 bins from optimal solution)
BestFitDecreasing_Offline:	223 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	223 (4 bins from optimal solution)
BenMaier_Offline:	223 (4 bins from optimal solution)

N4C3W4\_Q:

Oracle:	222
NextFit_Online:	298 (76 bins from optimal solution)
FirstFit_Online:	241 (19 bins from optimal solution)
BestFit_Online:	240 (18 bins from optimal solution)
WorstFit_Online:	255 (33 bins from optimal solution)
RefinedFirstFit_Online:	309 (87 bins from optimal solution)
NextFit_Offline:	315 (93 bins from optimal solution)
FirstFitDecreasing_Offline:	226 (4 bins from optimal solution)
BestFitDecreasing_Offline:	226 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	226 (4 bins from optimal solution)
BenMaier_Offline:	226 (4 bins from optimal solution)

N4C3W4\_R:

Oracle:	214
NextFit_Online:	282 (68 bins from optimal solution)
FirstFit_Online:	232 (18 bins from optimal solution)
BestFit_Online:	232 (18 bins from optimal solution)
WorstFit_Online:	244 (30 bins from optimal solution)
RefinedFirstFit_Online:	298 (84 bins from optimal solution)
NextFit_Offline:	305 (91 bins from optimal solution)
FirstFitDecreasing_Offline:	219 (5 bins from optimal solution)
BestFitDecreasing_Offline:	219 (5 bins from optimal solution)
WorstFitDecreasing_Offline:	219 (5 bins from optimal solution)
BenMaier_Offline:	219 (5 bins from optimal solution)

N4C3W4\_S:

Oracle:	216
NextFit_Online:	285 (69 bins from optimal solution)
FirstFit_Online:	236 (20 bins from optimal solution)
BestFit_Online:	235 (19 bins from optimal solution)
WorstFit_Online:	248 (32 bins from optimal solution)
RefinedFirstFit_Online:	297 (81 bins from optimal solution)
NextFit_Offline:	304 (88 bins from optimal solution)
FirstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BestFitDecreasing_Offline:	220 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	221 (5 bins from optimal solution)
BenMaier_Offline:	220 (4 bins from optimal solution)

N4C3W4\_T:

Oracle:	216
NextFit_Online:	284 (68 bins from optimal solution)
FirstFit_Online:	234 (18 bins from optimal solution)
BestFit_Online:	234 (18 bins from optimal solution)
WorstFit_Online:	248 (32 bins from optimal solution)
RefinedFirstFit_Online:	295 (79 bins from optimal solution)
NextFit_Offline:	302 (86 bins from optimal solution)
FirstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BestFitDecreasing_Offline:	220 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	220 (4 bins from optimal solution)
BenMaier_Offline:	220 (4 bins from optimal solution)

HARDO:

Oracle:	56
NextFit_Online:	64 (8 bins from optimal solution)
FirstFit_Online:	60 (4 bins from optimal solution)
BestFit_Online:	60 (4 bins from optimal solution)
WorstFit_Online:	62 (6 bins from optimal solution)
RefinedFirstFit_Online:	64 (8 bins from optimal solution)
NextFit_Offline:	65 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (3 bins from optimal solution)
BestFitDecreasing_Offline:	59 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (3 bins from optimal solution)
BenMaier_Offline:	59 (3 bins from optimal solution)



HARD1:

Oracle:	57
NextFit_Online:	65 (8 bins from optimal solution)
FirstFit_Online:	62 (5 bins from optimal solution)
BestFit_Online:	62 (5 bins from optimal solution)
WorstFit_Online:	63 (6 bins from optimal solution)
RefinedFirstFit_Online:	66 (9 bins from optimal solution)
NextFit_Offline:	66 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BestFitDecreasing_Offline:	60 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BenMaier_Offline:	60 (3 bins from optimal solution)

HARD2:

Oracle:	56
NextFit_Online:	66 (10 bins from optimal solution)
FirstFit_Online:	62 (6 bins from optimal solution)
BestFit_Online:	62 (6 bins from optimal solution)
WorstFit_Online:	63 (7 bins from optimal solution)
RefinedFirstFit_Online:	66 (10 bins from optimal solution)
NextFit_Offline:	66 (10 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (4 bins from optimal solution)
BestFitDecreasing_Offline:	60 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (4 bins from optimal solution)
BenMaier_Offline:	60 (4 bins from optimal solution)

HARD3:

Oracle:	55
NextFit_Online:	65 (10 bins from optimal solution)
FirstFit_Online:	61 (6 bins from optimal solution)
BestFit_Online:	61 (6 bins from optimal solution)
WorstFit_Online:	61 (6 bins from optimal solution)
RefinedFirstFit_Online:	64 (9 bins from optimal solution)
NextFit_Offline:	64 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (4 bins from optimal solution)
BestFitDecreasing_Offline:	59 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (4 bins from optimal solution)
BenMaier_Offline:	59 (4 bins from optimal solution)

HARD4:

Oracle:	57
NextFit_Online:	66 (9 bins from optimal solution)
FirstFit_Online:	62 (5 bins from optimal solution)
BestFit_Online:	62 (5 bins from optimal solution)
WorstFit_Online:	63 (6 bins from optimal solution)
RefinedFirstFit_Online:	65 (8 bins from optimal solution)
NextFit_Offline:	65 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BestFitDecreasing_Offline:	60 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BenMaier_Offline:	60 (3 bins from optimal solution)

#### HARD5:

Oracle:	56
NextFit_Online:	65 (9 bins from optimal solution)
FirstFit_Online:	62 (6 bins from optimal solution)
BestFit_Online:	62 (6 bins from optimal solution)
WorstFit_Online:	62 (6 bins from optimal solution)
RefinedFirstFit_Online:	64 (8 bins from optimal solution)
NextFit_Offline:	65 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (3 bins from optimal solution)
BestFitDecreasing_Offline:	59 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (3 bins from optimal solution)
BenMaier_Offline:	59 (3 bins from optimal solution)

#### HARD6:

Oracle:	57
NextFit_Online:	65 (8 bins from optimal solution)
FirstFit_Online:	61 (4 bins from optimal solution)
BestFit_Online:	61 (4 bins from optimal solution)
WorstFit_Online:	63 (6 bins from optimal solution)
RefinedFirstFit_Online:	66 (9 bins from optimal solution)
NextFit_Offline:	65 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BestFitDecreasing_Offline:	60 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BenMaier_Offline:	60 (3 bins from optimal solution)

#### HARD7:

Oracle:	55
NextFit_Online:	63 (8 bins from optimal solution)
FirstFit_Online:	60 (5 bins from optimal solution)
BestFit_Online:	60 (5 bins from optimal solution)
WorstFit_Online:	60 (5 bins from optimal solution)
RefinedFirstFit_Online:	63 (8 bins from optimal solution)
NextFit_Offline:	63 (8 bins from optimal solution)
FirstFitDecreasing_Offline:	59 (4 bins from optimal solution)
BestFitDecreasing_Offline:	59 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	59 (4 bins from optimal solution)
BenMaier_Offline:	59 (4 bins from optimal solution)

#### HARD8:

Oracle:	57
NextFit_Online:	65 (8 bins from optimal solution)
FirstFit_Online:	61 (4 bins from optimal solution)
BestFit_Online:	61 (4 bins from optimal solution)
WorstFit_Online:	63 (6 bins from optimal solution)
RefinedFirstFit_Online:	67 (10 bins from optimal solution)
NextFit_Offline:	66 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BestFitDecreasing_Offline:	60 (3 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (3 bins from optimal solution)
BenMaier_Offline:	60 (3 bins from optimal solution)

HARD9:

Oracle:	56
NextFit_Online:	65 (9 bins from optimal solution)
FirstFit_Online:	62 (6 bins from optimal solution)
BestFit_Online:	62 (6 bins from optimal solution)
WorstFit_Online:	62 (6 bins from optimal solution)
RefinedFirstFit_Online:	65 (9 bins from optimal solution)
NextFit_Offline:	65 (9 bins from optimal solution)
FirstFitDecreasing_Offline:	60 (4 bins from optimal solution)
BestFitDecreasing_Offline:	60 (4 bins from optimal solution)
WorstFitDecreasing_Offline:	60 (4 bins from optimal solution)
BenMaier_Offline:	60 (4 bins from optimal solution)

p\_01:

Oracle:	4
NextFit_Online:	4 (0 bins from optimal solution)
FirstFit_Online:	4 (0 bins from optimal solution)
BestFit_Online:	4 (0 bins from optimal solution)
WorstFit_Online:	4 (0 bins from optimal solution)
RefinedFirstFit_Online:	5 (1 bins from optimal solution)
NextFit_Offline:	4 (0 bins from optimal solution)
FirstFitDecreasing_Offline:	4 (0 bins from optimal solution)
BestFitDecreasing_Offline:	4 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	4 (0 bins from optimal solution)
BenMaier_Offline:	4 (0 bins from optimal solution)

p\_02:

Oracle:	7
NextFit_Online:	8 (1 bins from optimal solution)
FirstFit_Online:	7 (0 bins from optimal solution)
BestFit_Online:	7 (0 bins from optimal solution)
WorstFit_Online:	7 (0 bins from optimal solution)
RefinedFirstFit_Online:	8 (1 bins from optimal solution)
NextFit_Offline:	7 (0 bins from optimal solution)
FirstFitDecreasing_Offline:	7 (0 bins from optimal solution)
BestFitDecreasing_Offline:	7 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	7 (0 bins from optimal solution)
BenMaier_Offline:	7 (0 bins from optimal solution)

p\_03:

Oracle:	4
NextFit_Online:	4 (0 bins from optimal solution)
FirstFit_Online:	4 (0 bins from optimal solution)
BestFit_Online:	4 (0 bins from optimal solution)
WorstFit_Online:	4 (0 bins from optimal solution)
RefinedFirstFit_Online:	4 (0 bins from optimal solution)
NextFit_Offline:	4 (0 bins from optimal solution)
FirstFitDecreasing_Offline:	4 (0 bins from optimal solution)
BestFitDecreasing_Offline:	4 (0 bins from optimal solution)
WorstFitDecreasing_Offline:	4 (0 bins from optimal solution)
BenMaier_Offline:	4 (0 bins from optimal solution)

p\_04:

Oracle:	7
NextFit_Online:	8 (1 bins from optimal solution)
FirstFit_Online:	8 (1 bins from optimal solution)
BestFit_Online:	8 (1 bins from optimal solution)
WorstFit_Online:	8 (1 bins from optimal solution)
RefinedFirstFit_Online:	8 (1 bins from optimal solution)
NextFit_Offline:	8 (1 bins from optimal solution)
FirstFitDecreasing_Offline:	7 (0 bins from optimal solution)
BestFitDecreasing_Offline:	8 (1 bins from optimal solution)
WorstFitDecreasing_Offline:	8 (1 bins from optimal solution)
BenMaier_Offline:	8 (1 bins from optimal solution)