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Data Structures and Algorithms II
Project 4
User's Manual

Setup and Compilation

1. Download and unzip the submission from eLearning on a Linux box in the multi-platform lab.
2. The submission includes:
    - main.cpp
    - Makefile
    - items.txt
    - filemanager.cpp
    - filemanager.hpp
    - offline.cpp
    - offline.hpp
    - online.cpp
    - online.hpp
    - optimal.cpp
    - optimal.hpp
    - permutationgenerator.cpp
    - permutationgenerator.hpp
3. Environment: This program has been tested in a unix terminal and will run in any Unix or Linux based environment.
4. Compiling: This program includes a `Makefile`. At the command line in Linux, type `make main`. The program produces an executable called `main`.

Running the program

Make sure that `items.txt` is in the same directory as the executable. Issue the command `./main`

User Input: There is no user input required to run this program.

Output

All output will go to the console. The output should look similar to this:

```
Policy        |  Total Bins Used
Optimal Solution  |      0
Online Alrgorithm |
  First Fit      |      6
  Next Fit       |      1
  Best Fit       |      3
Offline Alrgorithm|
  First Fit      |      6
  Best Fit       |      2
Optimal Bin Placement:
Online Bin Placement:
```

First Fit
bin 0: 0.41, 0.33, 0.245,
bin 1: 0.19, 0.5, 0.22,
bin 2: 0.755,
bin 3: 0.33, 0.5,
bin 4: 0.33, 0.37,
bin 5: 0.81,
Next Fit
bin 0:
Best Fit
bin 0: 0.59, 0.33, 0.245, 0.19, 0.5, 0.755,
bin 1: 0.67, 0.22, 0.5, 0.33, 0.81,
bin 2: 0.63,
Offline Bin Placement:
First Fit
bin 0: 0.19, 0.22, 0.245, 0.33,
bin 1: 0.33, 0.33,
bin 2: 0.37, 0.41,
bin 3: 0.5, 0.5,
bin 4: 0.755,
bin 5: 0.81,
Best Fit
bin 0: 0.81, 0.22, 0.245, 0.33, 0.33, 0.33, 0.37,
bin 1: 0.59, 0.5, 0.5, 0.755, 0.81,