To run the hyper-heuristics in the src/hh\_project directory

1. Copy all the codes into the same source directory of your Java project and make sure all the jar files in the /lib folder are added properly to your project.
2. Make sure you edit the following line within hh\_run\_batch.java:

args = new String[]{"1", "5", "6", "31", "530000"};

This is to suit the algorithm you intend to test-run on the HyFlex domains.

* 1. For example, the string array element above can be explained as follows: The tester wants to run EA-ILS ("1") on the 6th instance ("6") of the VRP domain ("5") 31 times ("31"). Each run will be stopped after 530 secs ("530000").
  2. To further enhance understanding, the switch statement starting with the expression "switch(Domain){" controls which domain is used to test an algorithm while the other switch statement within the method void setHH() which is towards the end of hh\_run\_batch.java triggers the algorithm to run based on the integer parameter entered by the user in the **args** array.

1. Notice there are two algorithms to choose from: TS-ILS (ILS\_conf.java) and EA-ILS (EA\_ILS\_final.java) based on the switch statement. The switch statement in the setHH() method can be extended if there is a need to test another algorithm in the source code folder or another algorithm not in the source folder.
2. When you are set, run hh\_run\_batch.java (since it is the java file that has a main method) and wait until all the trials are completed. **Before you run, create a folder named “Outputs” in your C:\ drive if you are running/testing EA-ILS and you want to view the heuristic search log/trends over the entire optimisation process**
3. To run more algorithms or more domains or more instances, you can extend each element of the **args** array, e.g. for the line below:

args = new String[]{"0,1", "1,1,1", "7,1,10", "31", "530000"};

It means that the two available algorithms in setHH() method, TS-ILS and EA-ILS are to be run in an interleaved manner on BP7, BP1 and BP10 instances, each one for 31 times/trials.

* 1. Notice that the number of integers within the string “1,1,1” matches the number of integers within the string “7,1,10”. This is important as each instance number is to match a domain number.
  2. Having this type of setting below connotes:

args = new String[]{"1", "8,2,3", "9,5,10", "31", "346000"};

EA-ILS is to run 31 times each on MAC9, PS5, and PFS10 instances. The run for each trial stops after 346 secs.

**Thanks for showing interest in our research**