sa_ilsHyperHeuristic

the structure of this algorithm

```
initialize solution s;
initialize interrelated variables;
divide method;
while(!hasTimeExpired())
  if(problem_consumed)
        ILSHH;
  else SAHH;
end-while
```

❖ divide method

```
problem_consumed=false;
record time1;
for(int i=0; i<local_search.length; i++)
    use local_search[i] to s
record time2;
if(time2 - time1 > 316)
    problem_consumed=true;
```

ILSHH

- select one of low-Hs (not local_search) and use it to s (change s to s1);
- use all local_search low-Hs to s1;
- if(ValueOf(s1)<ValueOf(s)) accept s1;
- else if(s did improve for a long time) accept s1;

SAHH

- set variable times_set;
- while(for times_set times)
- random select local_search[i] and use it to S;
- S(improved) accept;
- S(not improved) mutation S;