۱.۰.۰ شبه کد ازدحام گربه‌ها

الگوریتم ۱ شبه کد ازدحام گربه‌ها

```
Population ← 0;
for k = 1 to PopSize do
  C_k velocity ← Random Velocity();
  C_k position ← Random Position();
  C_k lbest ← C_k position ;
  Population ← C_k
end for
C_gbest ← 0;
while Stop Condition do
  SearchPopulation, TrackPopulation ← SetCatsPopModes(Population);
  Evaluate Population(population);
  C_gbest ← GetBestSolution(Population);
  for each C_k ∈SearchPopulation do
    j ← SMP;
    if SPC=true then
      j ← j − 1
    end if
    CopySet ← 0
    CopyPopulation ← MakePositionCopies(C_k position, j)
    for each X∈CopyPopulation do
      X←UpdatePosition(X,CDC,SRD);
    end for
    EvaluatePopulation(CopyPopulation);
    FS_min ←GetWorstSolution(CopyPopulation);
    FS_max ←GetBestSolution(CopyPopulation);
    NormalizeFittness(CopyPopulation,FS_min,FS_max);
    C_k ←SelectPosition(CopyPopulation);
    for each C_k ∈TrackPopulation do
      C_k velocity ← UpdateVelocity(C_k velocity, C_k lbest, c_1);
      C_k position ← UpdatePosition(C_k position, C_k velocity);
      if Fitness(C_k position)≥Fitness(C_k lbest) then
        C_k lbest ← C_k position
      end if
    end for
  end for
end while
EvaluatePopulation(Population);
S_best ←GetBestSolution(Population);
return S−best;
```