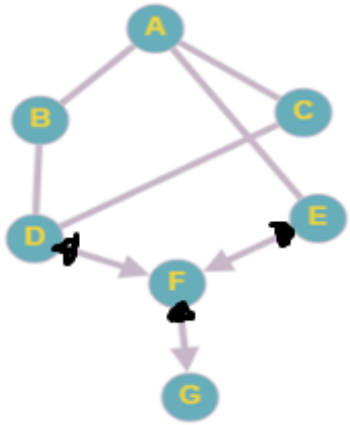
Ramon Emmanuel Alvarez Santana / 20163696

Inteligencia Artificial Distribuida

Resolver el problema del vendedor ambulante desarrollando un Algoritmos Genético de este.

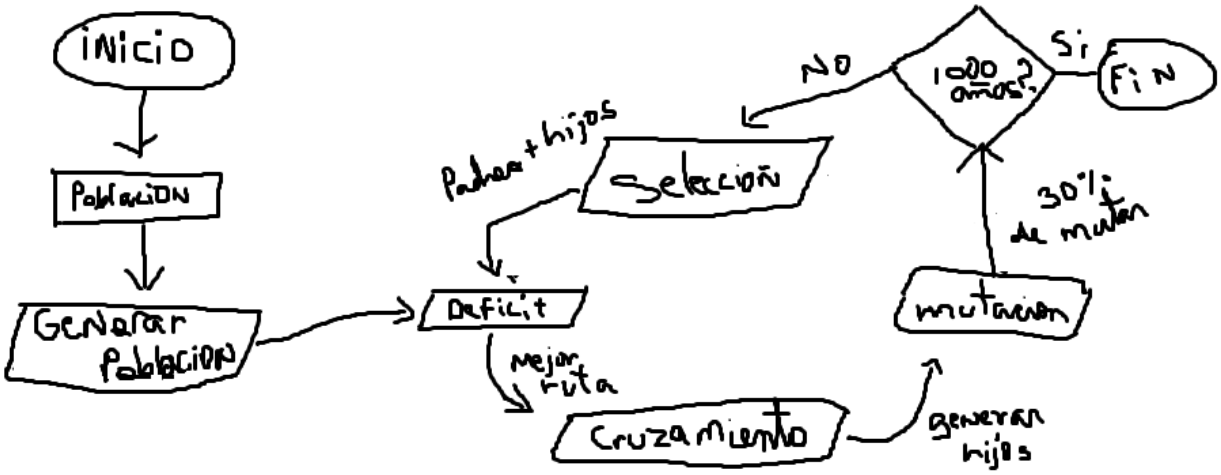
Grafo



Funciones desarrolladas

- Déficit
- Generación de población
- Cruzamiento
- Mutación

Diagrama de flujo



Resultados primeras 10 generaciones

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GEN:  0  SELECTION:  ['AEFDGBCA', 'ACDBEGFA', 'ADBCEGFA', 'AEFCBDGA']  BEST ROADS:  [20002078, 30003065]
GEN:  1  SELECTION:  ['AEFCBDGA', 'ACDBEGFA', 'AEFBCGDA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  2  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDFEBGA']  BEST ROADS:  [20002078, 20002078]
GEN:  3  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACGBEFDA']  BEST ROADS:  [20002078, 20002078]
GEN:  4  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'AFDBECGA']  BEST ROADS:  [20002078, 20002078]
GEN:  5  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  6  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  7  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  8  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  9  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'AEFCBDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
GEN:  10  SELECTION:  ['AEFCBDGA', 'ACDBEFGA', 'ABFCEDGA', 'ACDBEFGA']  BEST ROADS:  [20002078, 20002078]
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Resultado ultimas 20 generaciones

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GEN:  980  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  981  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  982  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  983  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'AEFGBDCA']  BEST ROADS:  [10001155, 10001155]
GEN:  984  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACEGBDFA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  985  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  986  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  987  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  988  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  989  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACBGFDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  990  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFEBDGA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  991  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFBGDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  992  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACEGBDFA']  BEST ROADS:  [10001155, 10001155]
GEN:  993  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'AEFGBDCA']  BEST ROADS:  [10001155, 10001155]
GEN:  994  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ADFGBCEA']  BEST ROADS:  [10001155, 10001155]
GEN:  995  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  996  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  997  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ABFGCDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  998  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
GEN:  999  SELECTION:  ['ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA', 'ACFGBDEA']  BEST ROADS:  [10001155, 10001155]
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Variables de entorno

- Población = 4.
- Déficit = 50% de la población.
- Cruzamiento = 50% de la población.
- Mutación = 30% probabilidad del 50% de los hijos.

Nota: Las valencias de las aristas son generadas aleatoriamente en el código.