



NagBody lectures: Pointers (part 3)

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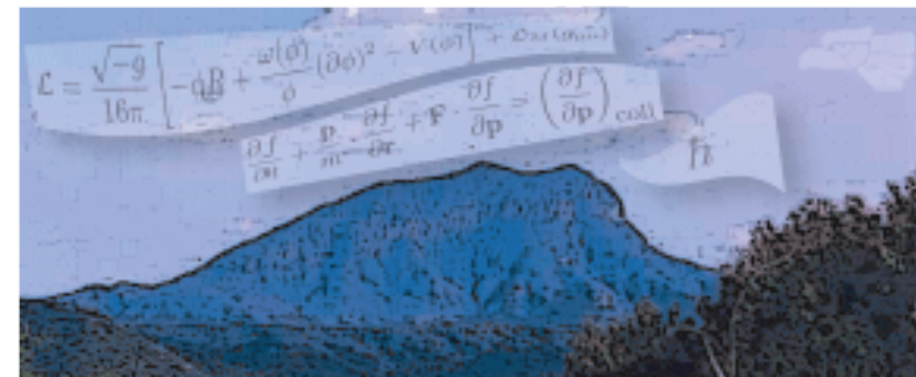
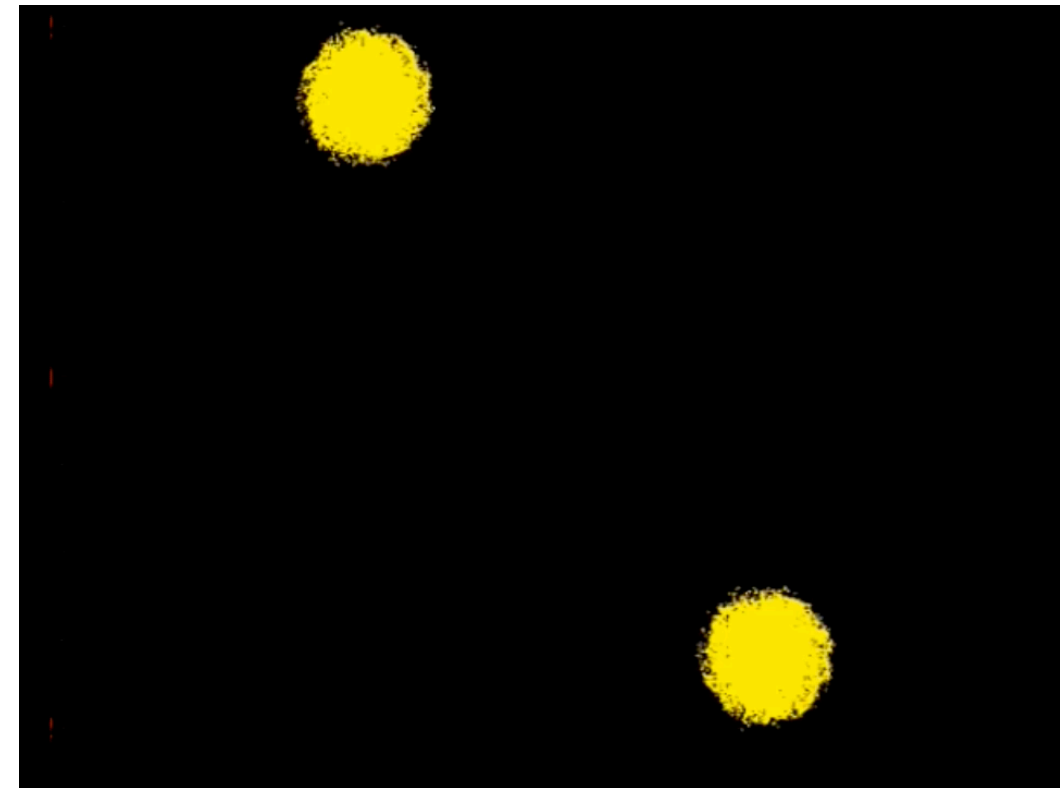
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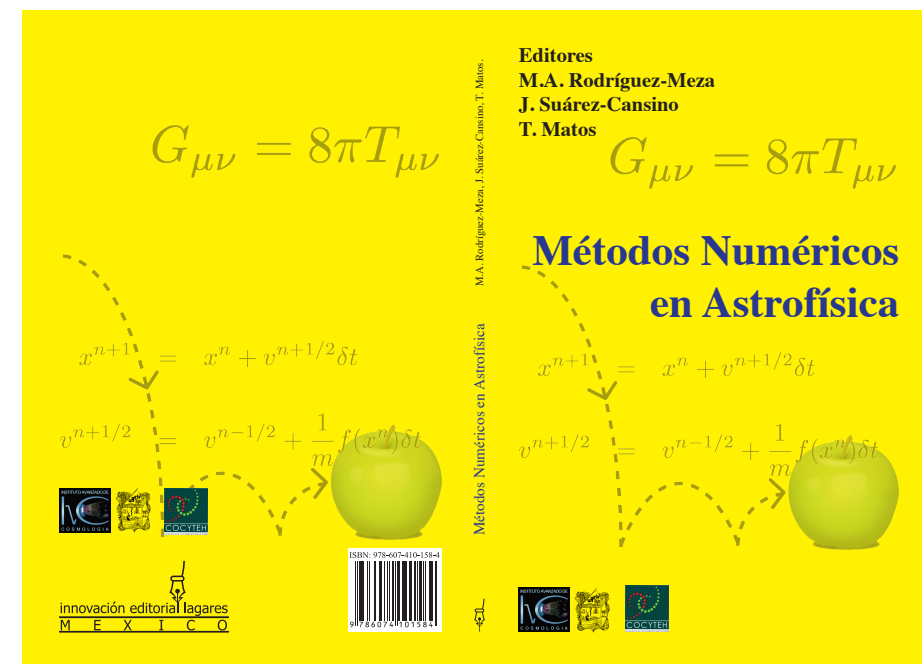
Seminario de investigación,
Departamento de Física,
Universidad de Guanajuato
3 de febrero al XX de junio de 2022
Sesiones virtuales (Zoom, Meet, etcétera)

quintessence
Group



References and material

- Cosmología numérica y estadística: NagBody kit (<http://bitbucket.org/rodriguezmeza>). Mario A. Rodríguez-Meza. And: https://github.com/rodriguezmeza/NagBody_lectures.git
- Métodos numéricos en astrofísica, capítulo I, Método de N-cuerpos en astrofísica. (https://www.researchgate.net/publication/316582859_Metodo_de_N-Cuerpos_en_Astrofisica)
- La estructura a gran escala del universo. Capítulo 22 en Travesuras cosmológicas de Einstein et al. https://www.researchgate.net/publication/316582400_La_estructura_a_gran_escala_del_universo_simulaciones_numericas
- https://www.researchgate.net/profile/Mario_Rodriguez-Meza
- https://www.researchgate.net/publication/314281416_Los_agujeros_negros_y_las_ondas_del_Dr_Einstein
- M.A. Rodríguez-Meza, Adv. Astron. 2012, 509682 (2012). arXiv: 1112.5201. (https://www.researchgate.net/publication/51967093_A_Scalar_Field_Dark_Matter_Model_and_Its_Role_in_the_Large-Scale_Structure_Formation_in_the_Universe)



Content:

Pointers. Part 3

- Pointers to functions



Function pointers

- A function pointer is a pointer that instead of pointing to data, point to executable code or to blocks of information needed to invoke executable code.
- They are used to store and manage functions as if they were pieces of data.
- Function pointers have a type that is described in terms of a return value and parameters that the function accepts.
- Declaration of function pointers are much like the declaration of function itself, except that an asterisk (*) appears before the function name and the asterisk and name are surrounded by parantheses for reason of associativity.

```
int (*match)(void *key1, void *key2);
```



Function pointers

- The important use of function pointers is to encapsulate functions into data structures.
- In searching lists the condition can be a function that is related to the specific structure of the list. So we define the condition in a function. And this definition goes into the structure of the data.
- See examples in NR.



Conclusions:

Pointers. Part 3

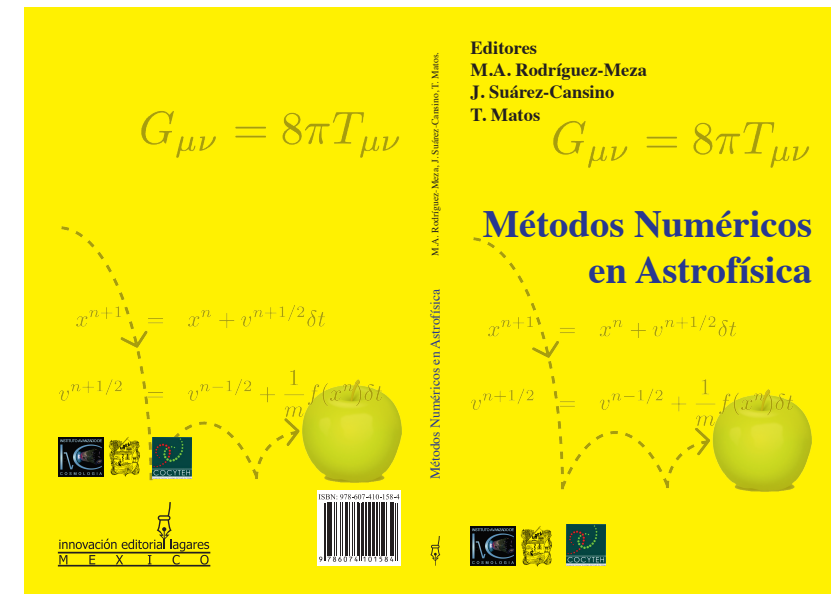
We have seen:

- Function pointers.
- Examples of use in NR.



References and material

- Cosmología numérica y estadística: NagBody kit (<http://bitbucket.org/rodriguezmeza>). Mario A. Rodríguez-Meza. And: https://github.com/rodriguezmeza/NagBody_lectures.git
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- La estructura a gran escala del universo. Capítulo 22 en Travesuras cosmológicas de Einstein et al. https://www.researchgate.net/publication/316582400_La_estructura_a_gran_escaladel_universo_simulaciones_numericas
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See you!

