

Choisir un fichier  Aucun fichier choisi

timer variable:

☐ force the catmull rom interpolation ?

fourrier presision:

Load!

Select your animation file from blockbench

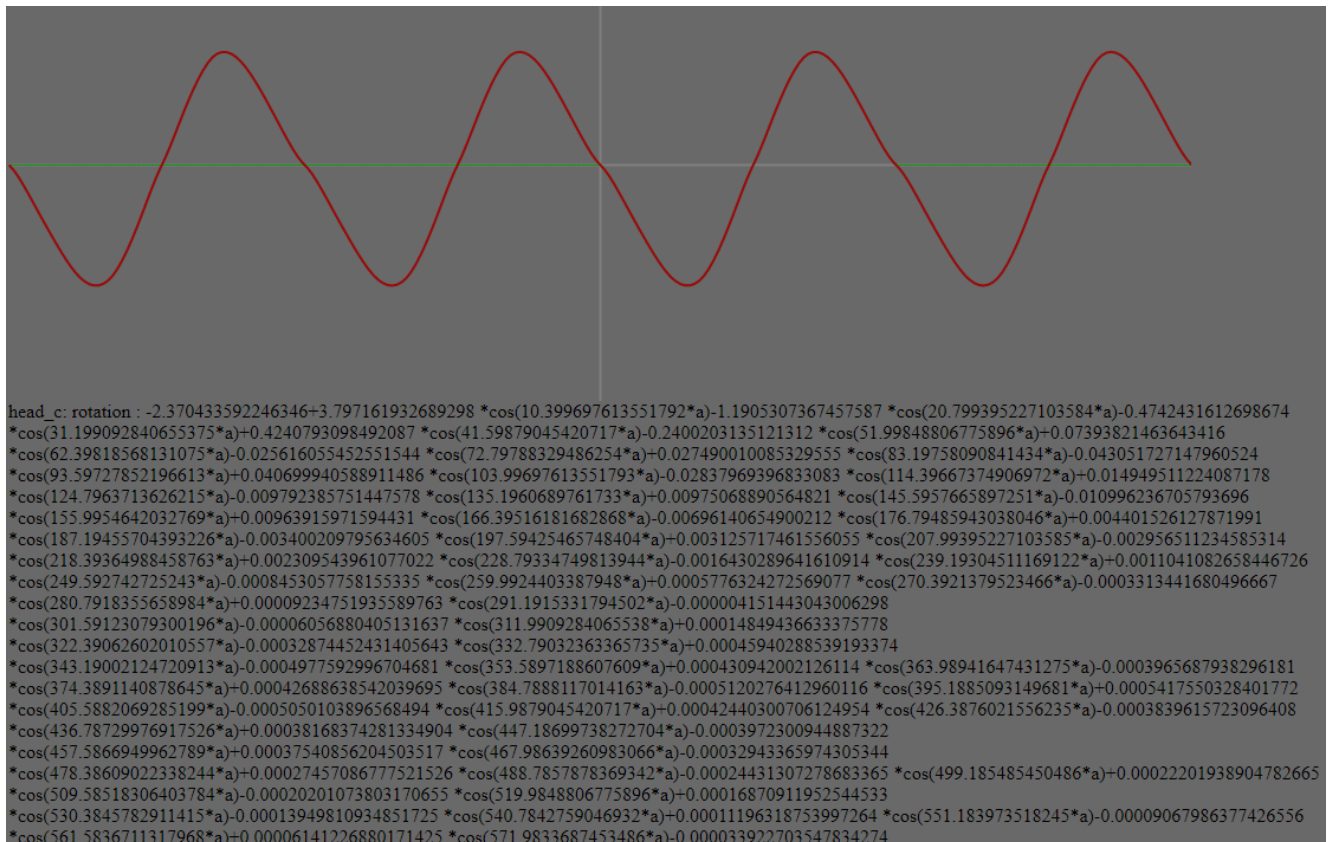
The timer variable is the variable use to know here you are in the animation (ex : age)

Force the program to use smooth interpolation, make the aproximation better. Is not check, the program will use the interpolation that was use in blockbench

How many sin and cos will be use to describe the animation: fourrier series are never exact and the more sin function you use, the closer to the real function you are.

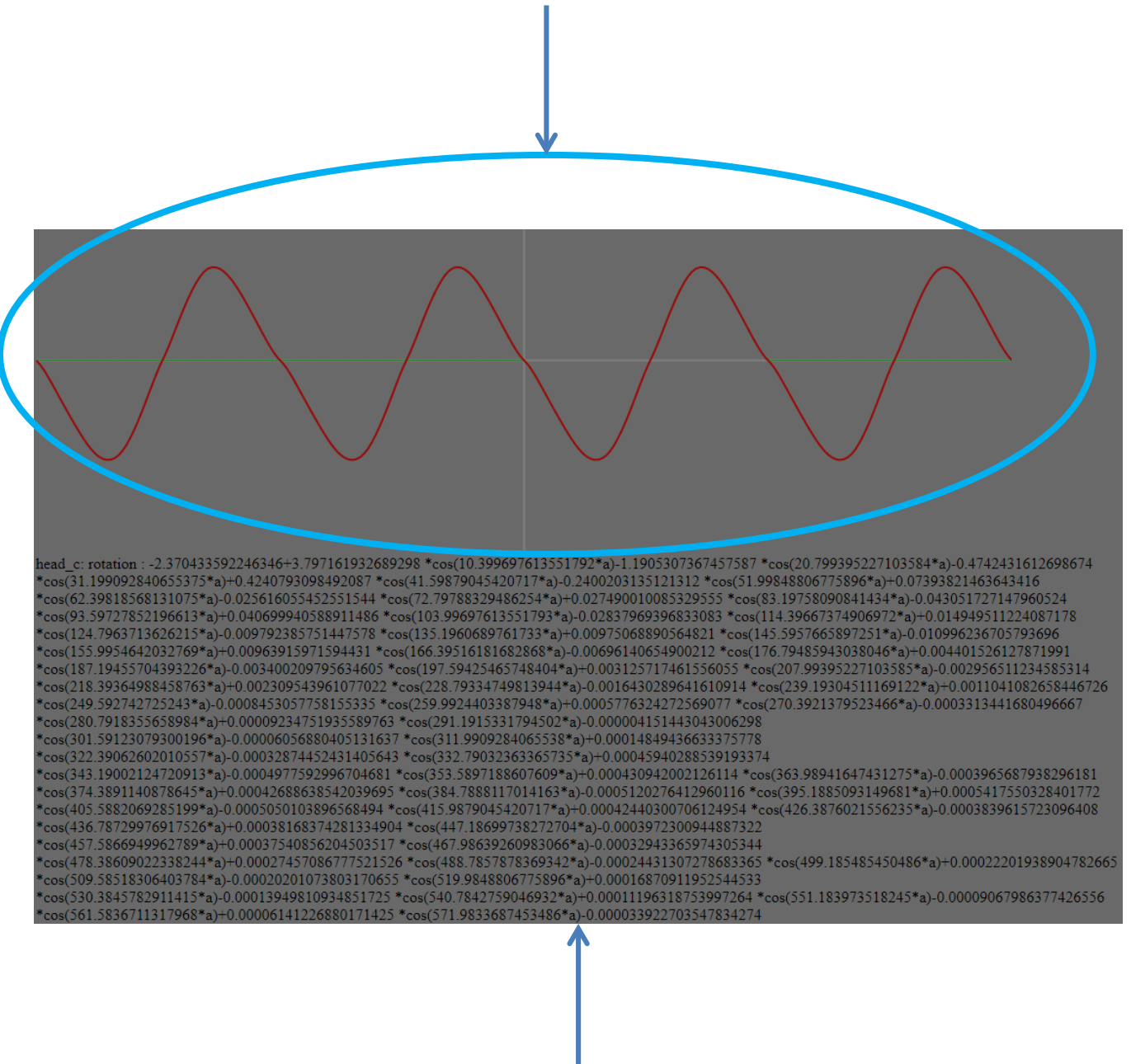
Usualy 10 is a good value. You shouldn't need to go above 20 and don't excede 995 (integration error occur and you don't get the right value)

Then hit load!

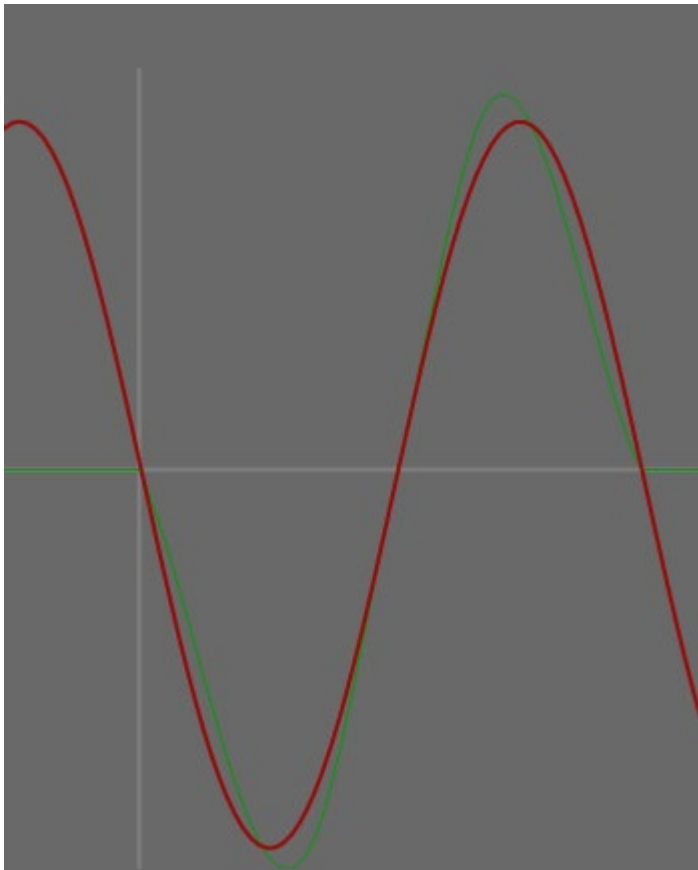


Something like that will appear

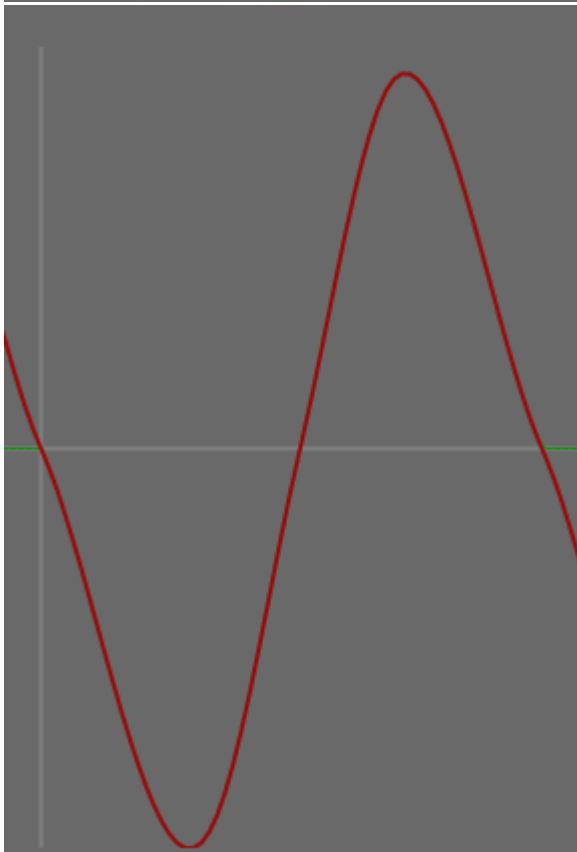
Preview of the animation function, in green you have the interpolation from keyframe, in red you have the fourier serie. If you don't see the function, hit load again.  
You can change the option and hit load and the output will update (no need to reload the page)



Output fourier series, more info in the next pages.



If you can see the green function here, you might need to increase the fourier presision but that will mean heavier fonction.



If you can't see the green function, that mean the presision is enough.

## Some info on the model.json format :

Because of how CPM 1.12 and blockbench work, incorporating the function in the model.json is not intuitive but it is not hard.

The plug in that export your model to 1.12 can create up to 4 bone for a bone with a single bone in blockbench (here is an exple where in blockbench, flame\_1 is just one bone with one cube.

```
{
  "id": "flame_1_cpm_dummy",
  "parent": "flame",
  "position": [3.75, 0, 0]
},
{
  "id": "flame_1",
  "parent": "flame_1_cpm_dummy",
  "rotation": [-15, 0, 0],
  "boxes": []
},
{
  "id": "flame_1_flame_1_wrapper_bone",
  "parent": "flame_1",
  "position": [-3.75, -10.5, -7.5],
  "boxes": []
},
{
  "id": "flame_1_flame_1_wrapper_bone_pivot_point",
  "parent": "flame_1_flame_1_wrapper_bone",
  "rotation": [0, 0, 0],
  "boxes": [
    {
      "textureOffset": [43, 22],
      "coordinates": [3.75, 8.5, 10.5, 0.001, 4, 3]
    }
  ]
},
}
```

We will use this  
field for position

And this one  
for rotation

The order of calculation (position and rotation) is not the same in blockbench and CPM 1.12. you can use the position and rotation in the same bone but be aware that this might lead to some issue with the bone not following the animation (all the more so if child bones are also animated).

If the `_cpm_dummy` is not present, you will have to create it if you have position animation.

## Exemple with the X position

X  
Y  
Z

X

Y

Z

```
mirror: rotation : -13.778893173486479+2.3341098718557927 *cos(10.399697613551792*age)+13.472881176051919
*cos(20.799395227103584*age)-3.1038424822525763 *cos(31.199092840655375*age)-1.7156699729061402
*sin(10.399697613551792*age)+2.365143155602323 *sin(20.799395227103584*age)-1.2022248962872688 *sin(31.199092840655375*age)
+8.353683143014916-10.710771570052284 *cos(10.399697613551792*age)+3.313990996722047
*cos(20.799395227103584*age)-1.3730495477072389 *cos(31.199092840655375*age)-3.6718502867781755
*sin(10.399697613551792*age)+1.030284985978201 *sin(20.799395227103584*age)-0.3494451042037586 *sin(31.199092840655375*age)
+0
; position : -0.6759426942675322+0.9358356052047605 *cos(10.399697613551792*age)-0.18904194641270783
*cos(20.799395227103584*age)-0.13554695192372856 *cos(31.199092840655375*age)-13.34978600927487
*sin(10.399697613551792*age)+1.6754305848007491 *sin(20.799395227103584*age)+0.5915918879750661
*sin(31.199092840655375*age)
+6.486790035956601-9.538878976438841 *cos(10.399697613551792*age)+4.090075979920064
*cos(20.799395227103584*age)-1.5064318002780157 *cos(31.199092840655375*age)-4.099043188013166
*sin(10.399697613551792*age)+1.2055442729838481 *sin(20.799395227103584*age)-0.3875706560324486 *sin(31.199092840655375*age)
-2.7541707374917612+3.416064671433788 *cos(10.399697613551792*age)-1.0307878852802959
*cos(20.799395227103584*age)+0.5448723630125115 *cos(31.199092840655375*age)+7.846519358159276
*sin(10.399697613551792*age)-1.1786535960730096 *sin(20.799395227103584*age)-0.16985090536778527
*sin(31.199092840655375*age)
```



```
{
  "id": "mirror_cpm_dummy",
  "parent": "mirror_anim",
  "position" : [1, 2, -2]
},
{
  "id": "mirror",
  "parent": "mirror_cpm_dummy",
  "rotation": [0, 0, 7.5],
  "boxes": []
},
```

"1-0.6759426942675322+0.9358356052047605  
\*cos(10.399697613551792\*age)-0.18904194641270783  
\*cos(20.799395227103584\*age)-0.13554695192372856  
\*cos(31.199092840655375\*age)-13.34978600927487  
\*sin(10.399697613551792\*age)+1.6754305848007491  
\*sin(20.799395227103584\*age)+0.5915918879750661  
\*sin(31.199092840655375\*age)"