



# 1. PYTHON



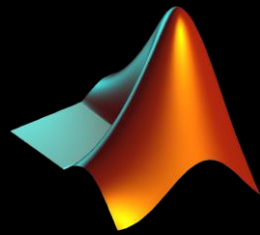
```
while t <= t_max:  
    y += g * t * dt  
    t += dt
```

give me the gift!



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## 2. MATLAB



```
while t <= t_max  
    y = y + g * t * dt;  
    t = t + dt;  
end
```

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3. C



```
for (int i = 1; t < t_max; i++) {  
    y += g * t * dt;  
    t += dt;  
}
```

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## 4. C++



```
for (int i = 1; t < t_max; i++) {  
    y += g * t * dt;  
    t += dt;  
}
```

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## 5. JAVA



```
for (int i = 1; t < t_max; i++) {  
    y += g * t * dt;  
    t += dt;  
}
```

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## 6. C#



```
for (int i = 1; i <= t_max / dt; i++) {  
    y += g * t * dt;  
    t += dt;  
}
```

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## 7. JAVASCRIPT



```
for (let i = 1; t < t_max; i++) {  
    y += g * t * dt;  
    t += dt;  
}
```

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## 8. R



```
for (i in 1 : round(t_max / dt)) {  
  y <- y + g * t * dt  
  t <- t + dt  
}
```

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## 9. JULIA



```
while t <= t_max  
    y += g * t * dt  
    t += dt  
end
```

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## 10. FORTRAN



```
do i = 1, int(t_max / dt)
  y = y + g * t * dt
  t = t + dt
end do
```

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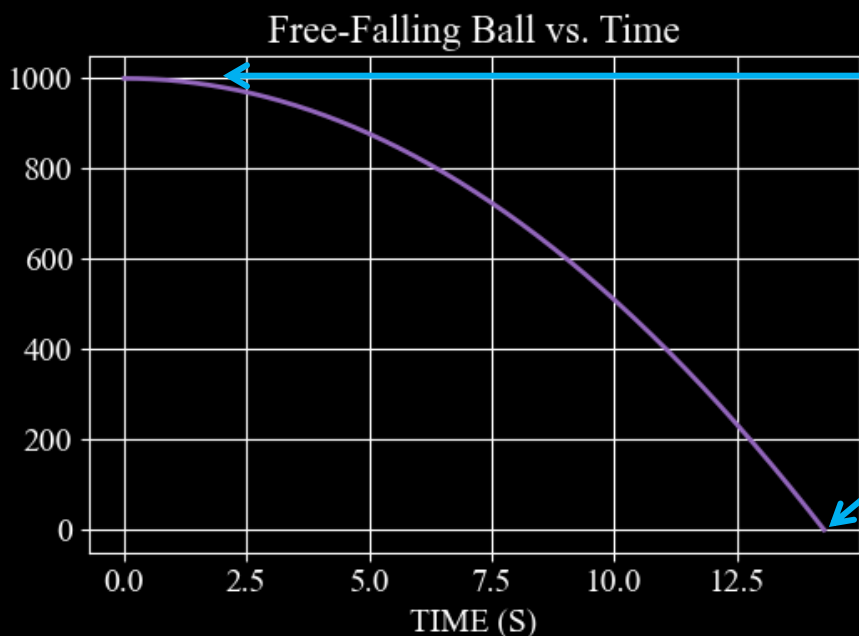
Want to make fun while developing cool algorithms for physical systems too?

Download now C4dynamics and run freefall.py.

Follow the instructions there.

<https://github.com/C4dynamics/C4dynamics/blob/main/examples/freefall.py>

C4dynamics is a cutting-edge, high-standard algorithms development framework.

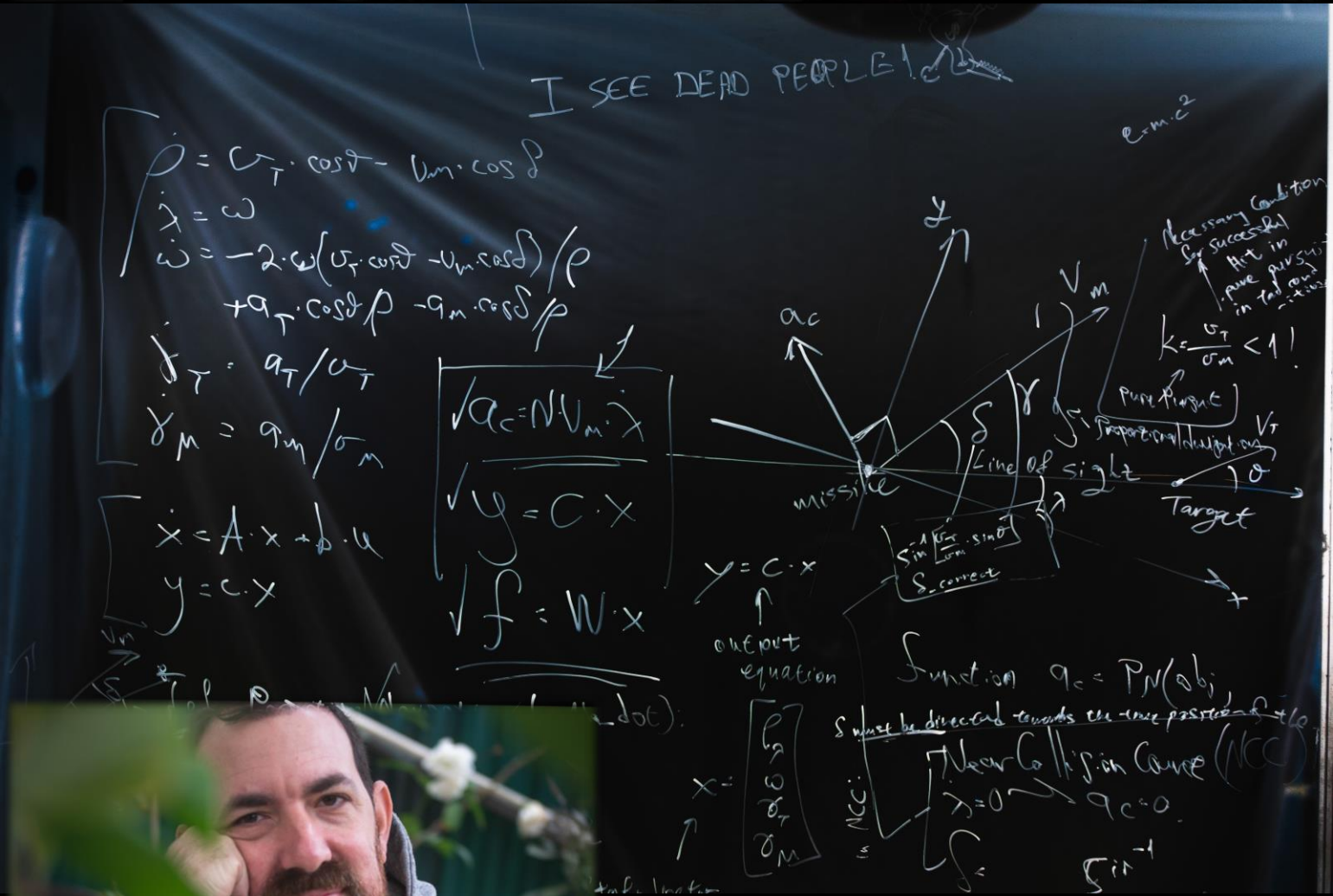
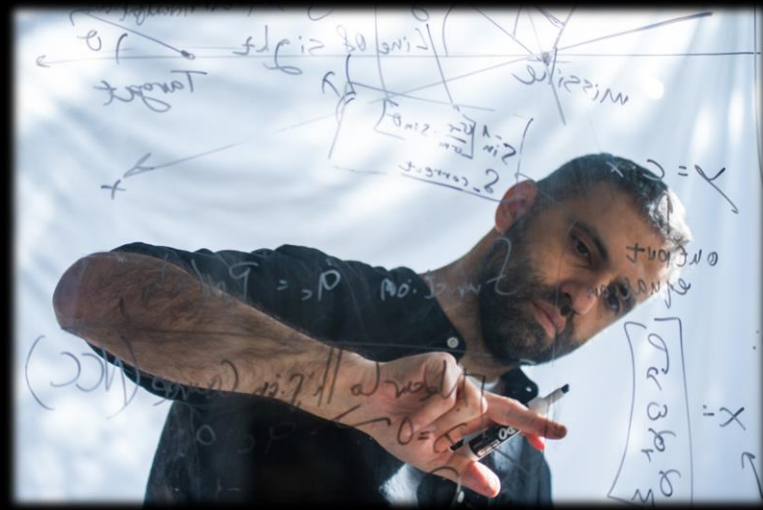


**Starting in 1000m  
at  $t=0$**

**Hits the ground at  
 $t=14.3s$**



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Gavriel Weinberger  
Visual Content Creator



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