Object Oriented Programming with Python

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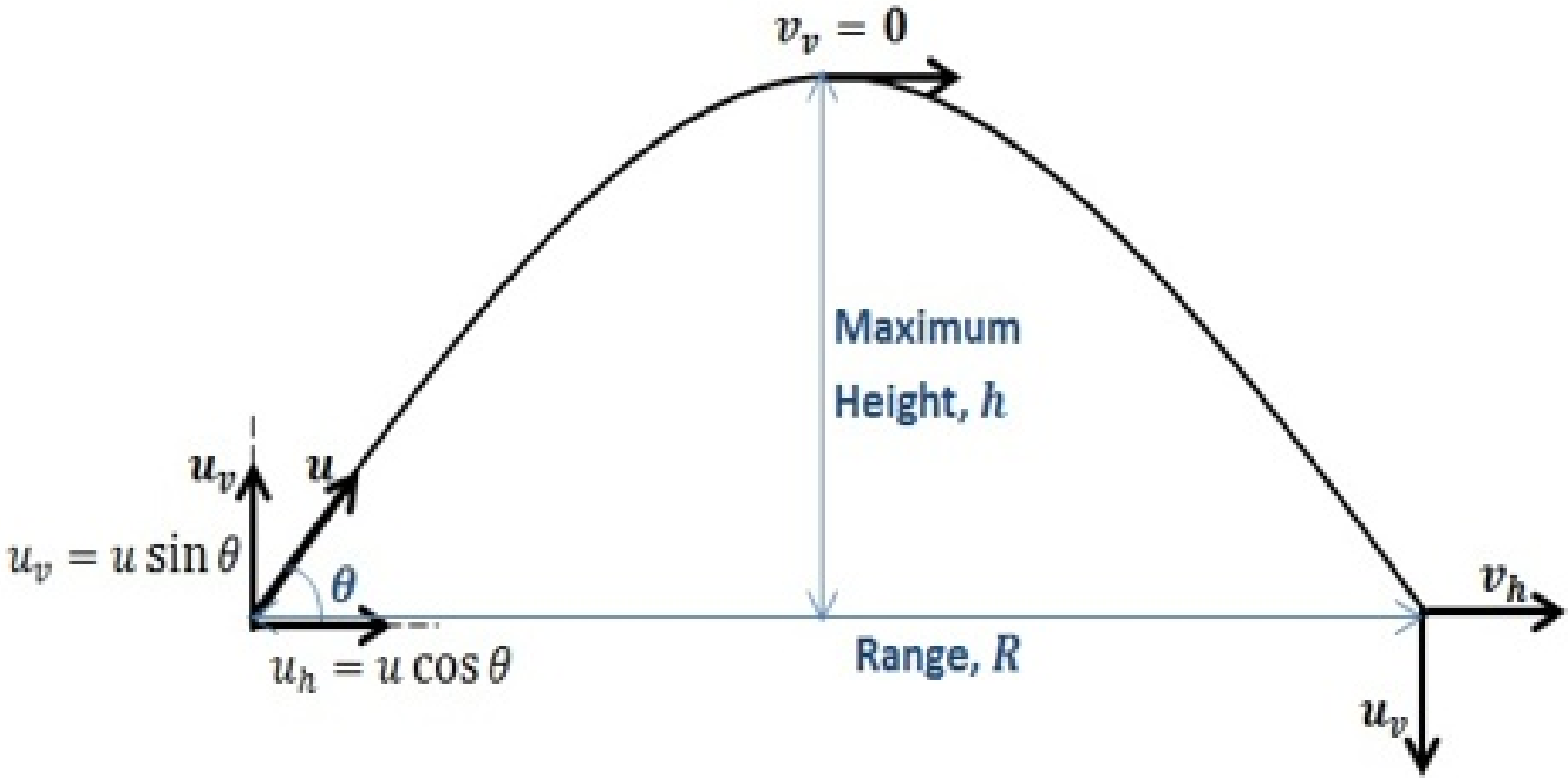
Session 08

Content

- Lets refactor our static functions
- Use our Physics lib
- Physics in games

Physics


$v_v = 0$
Maximum
Height, h
u_v
u
$u_v = u \sin\theta$
θ
$u_h = u \cos\theta$
Range, R
v_h
u_v

Physics formulas

Vox = Vo * cos <angle>

Voy = Vo * sen <angle>

DistX = Vox * time

T = 2Vo sen<angle>

DistY = (Voy * T) + ((-gavity * (T)**2)/2)

Where: Vo = intial velocity Vox = initial velocity in X Voy = initial velocity in Y T = run time DistX = Distance in axis X DistY = Distance in axis Y or height

Refactor Physics Lib

In session-07 we tried to use the library with static function but until use them we need to make some changes into them

Static Methods/Functions

```
# to use static methods you can use the
# following decorator
# Static functions not have the self parameter
@staticmethod
def my_method():
  pass
```

Use the new Physics lib

A goalkeeper shoot the ball out of his goal with velocity 26 m/s and 40 grade. Calculate:

- The max height
- The distance
- The time that the ball would be in the air

Physics in games