

## Comp. Anal. Of Phys. Sys.

### Quiz 9

Define a “warrior” class:

A warrior has four properties: Health, Strength, Dexterity, Stamina.

Health is 100 initially for all warriors.

Strength, dexterity and stamina are integers between [0-100].

Now, define three inherited classes: Human, Elf, Dwarf.

These are all warriors. Therefore, they will have the properties of a general warrior in addition to their own:

A human warrior uses a sword: Short (weapon=10), normal (30), long (50)

An elf warrior uses a bow: Short (5), normal (20), long (60)

A dwarf warrior uses an axe: Short (5), normal (30), long (40)

Create two teams having three warriors of each type using random variables for their properties. They will have a fight in a minute...

Before the fight, let each one scream her/his properties to fear the other team.

Now select two warriors randomly from each team and let them fight:

Calculate “strength+dexterity+stamina+weapon” for the two warriors (total1 and total2):

If  $total1 > total2$  :  $health2 = health2 - (total1 - total2)$  ,  $health1 = health1$

If  $total2 > total1$  :  $health1 = health1 - (total2 - total1)$  ,  $health2 = health2$

If  $total2 = total1$  :  $health1 = health1$  ,  $health2 = health2$

Continue fighting until one of the teams is all dead. Print how many fights happened in the field.