Human

Ruslan V. Akhpashev;

SibSUTIS, email: ruslan.akhpashev@gmail.com, github: @fzybot.

January 2022

1 Introduction

The following task is aimed to practice an Object-oriented programming (OOP). The first task is to create a human model.

2 Human Class

2.1 Variables

In order to fulfill some requirements some variables must exist:

- Each person should have a common information to be uniquely identified:
  - First name;
  - Second name;
  - Middle name;
  - Height;
  - Weight;
  - etc (it's up to you).
- Each object (each person) should be able to move from one position to another. Thus, some coordinate variables should contain these values. The coordinate system must be implemented as geographical coordinate system (GCS)[1].
- Since the human model is a program, each program has it's own "life time". The "life time" is a time from start of a program to the end (it could be seconds, milliseconds, iterrations, etc.).

2.2 Methods

The following methods must be implemented:

- "Setters and Getters" for all common information. These methods do not have to be named as "setSomething" or "getSomething". They would rather be named more realistic according to a meaning.
- Make a step during jogging or walk. The step follow a rules according a human behavior. One of the algorithms mush be used from [2] article.
- Each step should be stored for current object so you would be able to see the path.
- Calculate the passed distance for GCS during a "life time". As a reminder - it is a spherical motion.

References

[1] Geographic coordinate system. IBM® Informix® 12.10.

[2] Tracy Camp; Jeff Boleng; Vanessa Davies (2002). A survey of mobility models for ad hoc network research. , 2(5), 483–502. doi:10.1002/wcm.72.