Completing tasks step by step

MatLab File *HistEDFConstruct2025.mlx* *example and guide for you*

Data for this task you can find in file *ДоходIncome.pdf*

Point 1

In accordance with *Data2*, you need build *histogram* for data presented as a table with specified intervals and absolute frequencies n_i (file *ДоходIncome.pdf)*, using various values of the *Normalization* property. Add explanatory information for the histogram.

You can use the *HistEDFConstruct2025.mlx* file and according to this code prepare your decision of Point1 in the form of a MatLab program file named ***Point1YourName.mlx*** containing your first and last name.

All the mentioned files are located in the Moodle, section ***Empirical Characteristics…***, folder ***Methodological Materials***, and this file ***Task2Point1_2025.pdf*** too.

Point 2

In accordance with a tabular *Data2 (other way):*

You should to build a sample *X*, generating on each subinterval given number of outcomes that fall into the current interval, in accordance with the data in the table and combine them. For Data generation –use *randi* (uniform generator for integer data with known interval and vector column size).

a) For the resulting sample *X*, build a histograms with the same options as before.

b) Calculate range of data [*Xmin, Xmax*] . Use vector of points in one of the ways: *x= Xmim:step:Xmax* or *linspace(Xmin, Xmax,Npoints)* and for these values of *x*, find the values of *y* for the *normal probability density function* using the function MatLab *y=normpdf*(*X,mu,sigma*), (*mu – mean(x)*; *sigma – std(x)* is a standard deviation). Add the resulting graph (*x,y*) into the window, where histogram has option *pdf*.

c) Calculate the *median* for the sorted values of *X*, compare with *mean* value (You can use MatLab or definition). Draw conclusion on symmetry of empirical probability density function, explain.

Present your result in the form of Task2*Point2YourName.mlx*