# Istanbul Medipol University

## School of Engineering and Natural Sciences

## Advanced Programming Laboratory Instructions

- 2 exercises will be held during laboratory sections.
- Second exercise will be done individually and grading will be done according to that performance.
- Exercises will be about the topics which have been held by Prof. Dr. Selim Akyokuş in that week.
- **Submissions after Friday 6:30 PM will not be accepted.**
- **For second exercise, any type of plagiarism is not allowed.**
- Please submit your exercises as YourDept_StudentID_Lab#.py and zip it as YourDept_StudentID_Lab#.zip
- Your codes should have comments. Codes with no comments will not receive full credit.
- For any questions,please contact me via Teams.

## Exercise 1 (Quiz Question)

Today's example will be about usage of matplot and Linear Regression. The question is as follows.

X = [31, 32, 33, 49, 53, 69, 101, 109, 120, 132, 141]

Y = [540, 650,705, 840, 850, 890, 900, 1150, 1200, 1550, 1700]

a) Find and print the r_value, intercept, and slope values between x and y arrays by using linear regression function.
b) Then, find the prediction of y according to the array x. (*Hint: you can use the formula which is "*$prediction = intercept + slope * x$*" for finding the predicted y values.)*
c) Finally, plot x-y graph and predicted y values over it also by using matplot library.