

Exercises



Mastering Python



الدرس #9

Math & Statistics, Random & TKinter

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Exercises

1. Use $X=[3, 1.5, 4.5, 6.75, 2.25, 5.75, 2.25]$, to find the following statistics:

- `mean()`
- `harmonic_mean()`
- `median()`
- `median_low()`
- `median_high()`
- `median_grouped()`
- `mode()`
- `pstdev()`
- `pvariance()`
- `stdev()`
- `variance()`

Exercises

2. Use random library to generate the following

- Random number
- Random range(10)
- Random choice("Ali","Khalid","Hussam")
- Generate 10 sample random for range (1000)
- Choose random letter from "Orange Academy"
- Shuffle [1,5,8,9,2,4] and print the result
- Generate random integer (from 20,30)
- Print the result from random.randrange(1000, 2111, 5)
- Print the result of uniform(10000, 11000)

Exercises

3. Find the following :

- Print the value of pi
- $\cos(200)$, $\sin(30)$, $\tan(180)$
- Print the result of $\text{floor}(10.8)$
- Print the result of $\text{ceil}(10.8)$

Exercises

4. Download 2 images and one mask from the internet and apply the following into the image and show the results:

- Show image1 and print `imag.format`, `imag.size`, `imag.mode`
- Apply `image.transpose(Image.FLIP_TOP_BOTTOM)` and show the results
- Converts to `greyscale_image` and show the result
- `crop((0, 0, 50, 50))` the image and show the result
- Draw 2 cross lines and add your name to the image and show the result
- Apply the following filters and show the results : `EDGE_ENHANCE`, `FIND_EDGES`, `SMOOTH`, `SHARPEN`
- Apply blend function to the image and show the result
- Apply `filter(ImageFilter.BLUR)` and show the results
- Apply `thumbnail((128, 128))` and show the results
- Apply `image.rotate(90)` and show the results
- `composite(img1, img2, mask)`



Master in Software Engineering

Hussam Hourani has over 25 years of Organizations Transformation, VROs, PMO, Large Scale and Enterprise Programs Global Delivery, Leadership, Business Development and Management Consulting. His client experience is wide ranging across many sectors but focuses on Performance Enhancement, Transformation, Enterprise Program Management, Artificial Intelligence and Data Science.