INTELLIGENCE SYSTEM DEVELOPMENT
PTIT – D22CNTT, Semester I, 2025
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Studying is to a process of discovering yourself, knowledge, skills, behaviors/attitudes you need to obtain for your jobs, your life, your health, your happiness.

Due Date Before 11:30PM CHỦ NHẬT 24/08/2025
NỘP FILE PDF: assign1_tênlớp.tênnhóm_tênhọ.PDF lên facebook lớp

Ví dụ: Lớp 01, nhóm 03, Trần Đình Quế **assign1_01.03_quetd.PDF**

ASSIGNMENT 1

1.1 Investigate, discover and write [3 pages]
https://www.forbes.com/sites/robertadams/2017/01/10/10-powerful-examples-of-artificial-intelligence-in-use-today/?sh=2ed5b87e420d
https://www.apple.com/siri/
https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/artificial-intelligence-applications
https://www.som.iitb.ac.in/wp-content/uploads/2016/07/5.-CSIC_Intelligent-Systems-and-Applications-in-IT-Management.pdf
https://arxiv.org/pdf/2009.09083.pdf

1.2. What is Intelligent system? In the following definitions, which one impresses you mostly? Give examples of intelligent systems [3 pages]
https://www.igi-global.com/dictionary/intelligent-system/15045
https://high-tech-guide.com/article/what-are-examples-of-intelligent-systems
https://www.iotforall.com/8-helpful-everyday-examples-of-artificial-intelligence
https://www.algotive.ai/blog/intelligent-systems-what-are-they-how-do-they-work-and-why-are-they-so-important
https://www.youtube.com/watch?v=2dKqlwGhAN0
https://www.youtube.com/watch?v=aep1v2pZ44Y

1.3. Applications of intelligent systems: areas, AI techniques [3 pages]
https://builtin.com/artificial-intelligence/examples-ai-in-industry
https://www.unr.edu/cse/undergraduates/prospective-students/what-are-intelligent-systems

1.4. Types of Intelligent systems [3 pages]
https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/types-of-artificial-intelligence
https://www.edureka.co/blog/types-of-artificial-intelligence/

1.5. Load and read this paper https://arxiv.org/pdf/2009.09083.pdf Present applications of intelligent systems via Figure 7 [3 pages]

1.6. Describe features and purposes of **numpy, pandas, matplotlib, scikitLearn**. Give illustrated examples

1.7. (pg 29, [1]) Suppose you have three arrays: one containing the names of a group of people, another the corresponding heights of these individuals, and the last one the corresponding weights of the individuals in the group:

```
names = np.array(['Ann','Joe','Mark'])
```

```
heights = np.array([1.5, 1.78, 1.6])
weights = np.array([65, 46, 59])
```

you want to calculate the Body Mass Index (BMI) of this group of people. The formula to calculate BMI is as follows:

- Divide the weight in kilograms (kg) by the height in meters (m)
- Divide the answer by the height again
- Using the BMI, you can classify a person as healthy, overweight, or underweight using the following categories:
  + Underweight if BMI < 18.5
  + Overweight if BMI > 25
  + Normal weight if 18.5 <= BMI <= 25

1.8. Performing the following

- Plotting Multiple Lines in the Same Chart ([1], page 71)
- Adding a Legend ([1], page 72)
- Plotting Bar Charts ([1], page 73)

Then collect data from your team: student_name, subject (5 subjects), mark. Display the results in three above forms

1.9. Your task is to plot a chart to show the proportion of men and women in each group that has a driver's license, you can use Seaborn's categorical plot ([2], page 86). Store data in file CSV and display.

1.10. Using the Titanic dataset, plot a chart and see what the survival rate of men, women, and children looks like in each of the three classes https://github.com/mwaskom/seaborn-data ([2], page)

1.11. Construct data salary.csv for

gender, salary
men,100000
men,120000…….

Your task is to show the distribution of salaries for men and women ([2], 90)

1.12. Give data: (diện tích/m2, giá nhà/tỷ) như sau:

(50, 2.5), (60, 3), (65, 3.5), (70, 3.8), (75, 4), (80, 4.5), (85, 5)

Using regression to predict house price of 55m2, 68m2, 76m2, 90m2

1.13. Give data of height, weight of person ([1] page 101). Using regression to predict weight when given height.

1.14. Using multiple linear regression to predict house prices based on multiple features. Your task is to use Boston Dataset to implement the program ([1], page 120--…..)