Major Project

(Python Programming)

Questions on Python Programming (Module 1) :

1. How do you reverse a list in Python?

2. How do you check if a string is a palindrome?

3. How do you find the factorial of a number?

4. How do you swap two variables in Python?

5. How do you find the maximum element in a list?

6. How do you find the sum of all elements in a list?

7. How do you remove duplicates from a list?

8. How do you merge two dictionaries?

9. How do you find the length of a string?

10. How do you convert a string to uppercase?

11. How do you check if a key exists in a dictionary?

12. How do you sort a list of tuples based on the second element?

13. How do you implement polymorphism in Python? Provide an example using method overriding.

14. How do you find the intersection of two sets?

15. How do you create a list of even numbers from 0 to 20?

16. How do you remove all occurrences of a value from a list?

17. How do you count the number of occurrences of each element in a list?

18. How do you find the common elements in three lists?

19. How do you implement inheritance in Python? Provide an example with a base class and a derived class.

20. How do you flatten a list of lists?

21. How do you find the first non-repeating character in a string?

22. How do you create a class in Python and instantiate an object from it?

23. How do you find the GCD of two numbers?

24. How do you generate Fibonacci numbers up to a given number?

25. How do you convert a list of tuples into a dictionary?

Questions on NumPy (Module 2) :

1. How do you create a NumPy array from a Python list?

2. How do you create a NumPy array filled with zeros?

3. How do you create a NumPy array filled with ones?

4. How do you create a NumPy array with a range of values?

5. How do you create an identity matrix using NumPy?

6. How do you find the shape of a NumPy array?

7. How do you reshape a NumPy array?

8. How do you reverse a NumPy array?

9. How do you concatenate two NumPy arrays?

10. How do you find the maximum value in a NumPy array?

11. How do you find the minimum value in a NumPy array?

12. How do you find the mean of a NumPy array?

13. How do you find the standard deviation of a NumPy array?

14. How do you find the sum of all elements in a NumPy array?

15. Create 1D, 2D and 3D arrays in NumPy ?

16. How do you perform element-wise addition of two

NumPy arrays?

17. How do you perform element-wise multiplication of two

NumPy arrays?

18. How do you perform matrix multiplication with NumPy

arrays?

19. How do you transpose a NumPy array?

20. How do you compute the inverse of a matrix using

NumPy?

21. How do you sort a NumPy array?

22. How do you generate random numbers using NumPy?

Questions on Pandas (Module 2) :

You can get dataset from

(https://www.kaggle.com/datasets/stefanoleone992/filmtv-movies-dataset)

1. What is the average duration of the movies in the dataset?

2. Which movie has the highest average vote?

3. How many movies are there from the United States?4. What is the total number of votes for the movie "18 anni

tra una settimana"?

5. Which movie has the highest number of critics votes?

6. What is the genre of the movie "Ride a Wild Pony"?

7. How many directors worked on "Bugs Bunny's Third Movie:

1001 Rabbit Tales"?

8. Which movie has the highest humor rating?

9. What is the average rhythm rating of all movies?

10. Which movie has the lowest public vote?

11. What year was the movie "Diner" released?

12. Which country produced the movie "18 anni tra una settimana"?

13. What is the erotism rating for the movie "In Bed With Madonna"?

14. What is the average tension rating of all movies?

15. Which movie has the longest duration?

16. Who is the director of "Ride a Wild Pony"?

17. What is the total number of votes for "Ride a Wild Pony"?

18. How many actors are listed for "Mr. Majestyk"?

19. Which movie has the highest total vote count?

20. What is the rhythm rating for the movie "Ride a Wild Pony"?

21. Which movie has a description mentioning a young drifter?22. What is the genre of "Arrêt sur image"?

23. How many movies have an erotism rating of 0?

24. What is the average public vote of all movies?

25. Which movie's description mentions Warner cartoons?

26. Plot a bar graph between the year and the number of movies released in that year.