

PROJECT REPORT ON
**EXAMINING THE NUTRITIONAL WELL BEING OF DAILY WAGES
IN RURAL AREA AND USING PYTHON**
COIMBATORE

Submitted in partial fulfillment of the requirement of the award of the degree in

BACHELOR OF SCIENCE IN MATHEMATICS

SUBMITTED BY

KOWSALYA. J (1U21MA004)

VINUPRIYA. B (1U21MA013)

GUIDED BY

Dr. P. SOLAIRANI M.Sc., M.Phil., Ph.D

ASSOCIATE PROFESSOR

DEPARTMENT OF MATHEMATICS



2023 - 2024

RVS COLLEGE OF ARTS AND SCIENCE

(AUTONOMOUS)

REACCREDITED by NACC with 'A+' Grade

Sulur, Coimbatore-641 402.

Certificate

RVS COLLEGE OF ARTS AND SCIENCE

(AUTONOMOUS)

Sulur, Coimbatore-641 402



Estd 1986
RVS CAS
Building Intellectual Capital

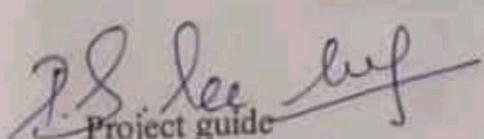
2023 - 2024

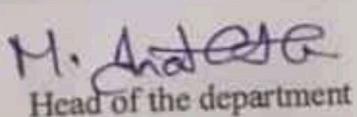
DEPARTMENT OF MATHEMATICS

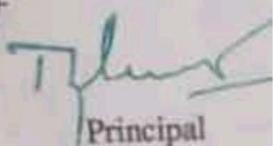
CERTIFICATE

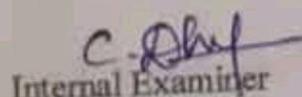
This is to certify that project work entitled **EXAMINING THE NUTRITIONAL WELL BEING OF DAILY WAGES IN RURAL AREA AND USING PYTHON** is a bonafide record work done by **J.KOWSALYA (1U21MA004)**, **B.VINU PRIYA (1U21MA013)** in partial fulfillment of the requirement for the award of the Bachelor Degree in Mathematics during the year 2021-2024.

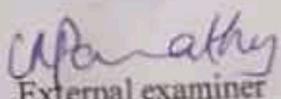
Submitted for the Viva examination held on 25/03/2024


Project guide


Head of the department


Principal


Internal Examiner


External examiner



RVS COLLEGE OF ARTS AND SCIENCE

(AUTONOMOUS)

Sulur, Coimbatore-641 402



Estd 1966
RVS CAS
Building Intellectual Capital

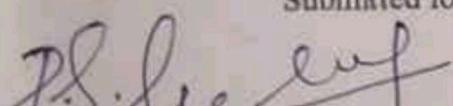
2023 - 2024

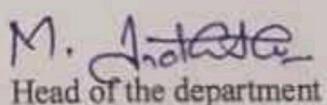
DEPARTMENT OF MATHEMATICS

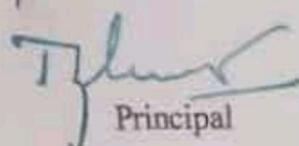
CERTIFICATE

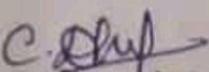
This is to certify that project work entitled **EXAMINING THE NUTRITIONAL WELL BEING OF DAILY WAGES IN RURAL AREA AND USING PYTHON** is a bonafide record work done by **J.KOWSALYA (IU21MA004), B.VINU PRIYA (IU21MA013)**, collaborating with the students of Department of Foods and Nutrition, **KAMALI, SHAVINA**, partial fulfillment of the requirement for the award of the Bachelor Degree in Mathematics during the year 2021-2024.

Submitted for the Viva examination held on 25/03/2024


Project guide


Head of the department


Principal


Internal Examiner


External examiner



Declarations

DECLARATION

We **J.KOWSALYA, B.VINU PRIYA** do here by declare that the project entitled **EXAMINING THE NUTRITIONAL WELL BEING OF DAILY WAGES IN RURAL AREA AND USING PYTHON** submitted to **RVS COLLEGE OF ARTS AND SCIENCE** in partial fulfillment of the requirement for the award of the **DEGREE OF BACHELOR SCIENCE IN MATHEMATICS** to be awarded by Bharathiar University, is a record of group project work done by us during the period 2021-2024 under the supervision and guidance of **Dr. P. SOLAIRANI M.Sc., M.Phil.,Ph.D**, Associate Professor, of Department of Mathematics, **RVS COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), Sulur, Coimbatore-641 402.**

PLACE: SULUR

DATE: *25/03/2024*

1. *J.K*
2. *B.V Priya*.

Signature of candidates

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

We extend our sincere thanks to almighty god without whom this work would never First and foremost, have seen the light of this day.

We thank our principal **Dr. T. SIVAKUMAR, M.Sc., M.Phil., Ph.D.,** RVS College of arts and science, Coimbatore for his constant support and all necessary facilities to carry on the project successfully.

We acknowledge our thanks to **Dr. M. INDHUMATHI, M.Sc., M.Phil., Ph.D., NCVT.,** Assistant Professor, Head of the Department of Mathematics who always had been source of our inspiration during the period of our project.

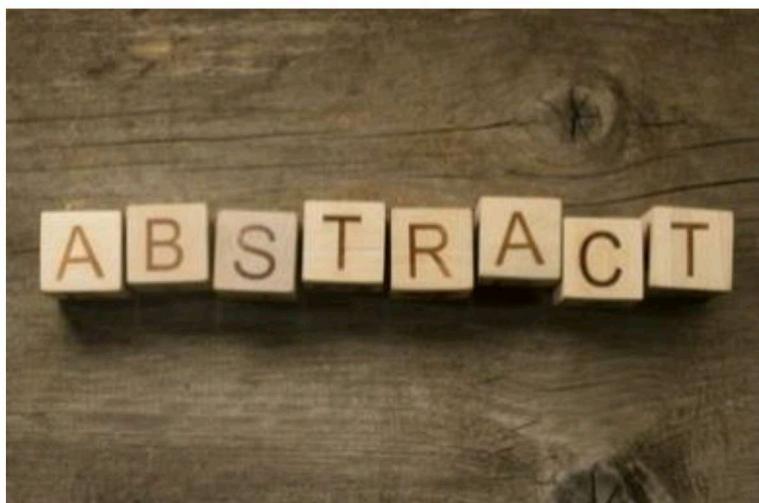
We also express our sincere gratitude to **Dr. S. ANGELINE ESTHER PREETHI, M.Sc., M.Phil., Ph.D., NCVT.,** Associate Professor, Head of the Department of Foods and Nutrition for their contributions, which have significantly enriched our project experience.

With deep sense of gratitude we thank our guide **Dr. P. SOLAIRANI, M.Sc., M.Phil., Ph.D,** Associate Professor, Department of Mathematics for his valuable suggestions and guidance at all times of this project work.

I also express my thanks to my tutor **Dr. C. DHANAPAKYAM, M.Sc., B.Ed., Ph.D.,** Assistant professor, Department of Mathematics, for her encouragement to complete the project successfully.

We are very thankful to all the staff members of Department of Mathematics for their valuable suggestion and encouragement during this project work.

We deeply indebted to parents and well-wishers we thank for all that have gladly done and sacrificed for our sake.



ABSTRACT

The project deals with the **EXAMINING THE NUTRITIONAL WELL BEING OF DAILY WAGES**. The data have been collected in **RURAL AREA IN KAMMALAPATTI IN COIMBATORE DISTRICT** which has been formulated to this model by **MEAN AND STANDARD DEVIATION BY USING PYTHON**.



Content

CONTENT

S.NO	TITLE	PAGE NO
01	INTRODUCTION	01
02	MEAN AND STANDARD DEVIATION	04
03	NUTRITIONAL NEEDS AND HEALTH IN ADULTHOOD	06
04	COLLECTION OF DATA	08
05	CONVERSION OF DATA	11
06	PROBLEM	12
07	SOLUTION	13
08	PYTHON FOR DATA ANALYSIS	18
	CONCLUSION	22
	BIBLIOGRAPHY	23



Introduction

1. INTRODUCTION

1.1 STATISTICS

Statistics is a multifaceted discipline encompassing the collection, organization, analysis, interpretation, and presentation of numerical data. It involves a diverse range of methodologies and techniques aimed at understanding and drawing meaningful insights from data. At its core, statistics provides tools for summarizing data through measures of central tendency (such as mean, median, and mode) and measures of dispersion (such as range, variance, and standard deviation). Descriptive statistics help to characterize the features of a dataset and provide a snapshot of its central tendencies and variability.

Inferential statistics, on the other hand, extend beyond the observed data to make inferences, predictions, or generalizations about populations based on samples. This involves hypothesis testing, where statistical tests are used to assess the strength of evidence for or against a hypothesis, and confidence intervals, which provide estimates of population parameters along with their associated levels of uncertainty. Probability theory underpins many statistical methods and serves as the mathematical foundation for quantifying uncertainty and randomness in data. It provides a framework for understanding the likelihood of different outcomes and events, which is essential for making informed decisions and conducting rigorous statistical analyses.

Sampling methods play a crucial role in statistics by determining how data are collected from populations. Proper sampling techniques ensure that the sample is representative of the population of interest and that statistical inferences drawn from the sample are valid and reliable. Experimental design is another key aspect of statistics, particularly in scientific research, where experiments are conducted to investigate causal relationships between variables. Careful planning and execution of experiments, including the random assignment of participants to treatment groups and the control of confounding variables, are essential for drawing valid conclusions from experimental data. Data visualization techniques, such as charts, graphs, and plots, are used to visually represent data and facilitate the exploration, interpretation, and communication of statistical findings.

Effective data visualization can help uncover patterns, trends, and relationships in data that may not be apparent from numerical summaries alone. Overall, statistics plays a critical role in numerous fields, including science, medicine, economics, psychology, sociology, and business, where it provides essential tools for data-driven decision-making, hypothesis testing, and scientific inquiry.

1.2 ORIGIN OF STATISTICS

The origins of statistics can be traced back to ancient civilizations, where rudimentary methods of data collection and analysis were used for various purposes such as taxation, trade, and governance. One of the earliest known uses of statistical methods dates back to ancient Mesopotamia around 3000 BCE, where clay tablets were used to record census data and agricultural yields. Similarly, the ancient Egyptians employed statistical techniques for tasks such as estimating land area for taxation purposes. In ancient Greece, scholars like Hippocrates and Aristotle made early attempts to analyze data systematically. Hippocrates, known as the father of medicine, collected and analyzed medical data to understand patterns of disease and health. Aristotle also made contributions to the study of data and probability, particularly in his work on logic and inference.

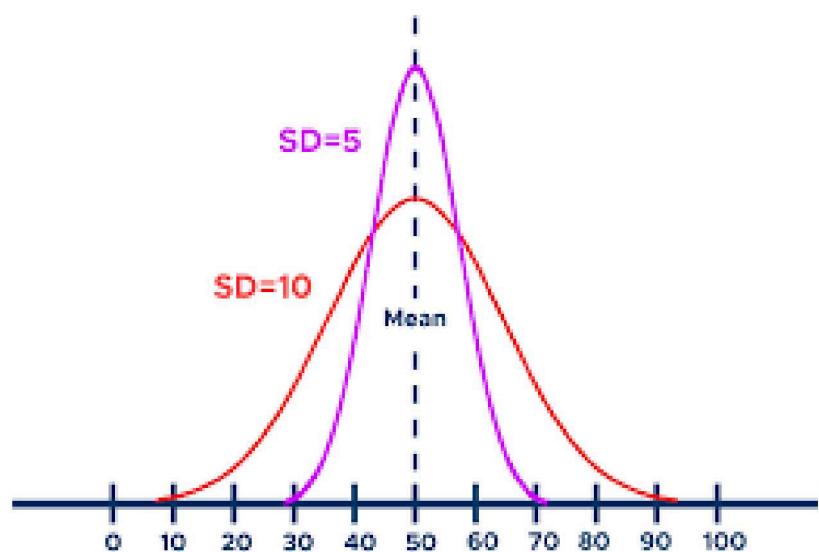
The term "statistics" itself is derived from the Latin word "statisticum collegium," which referred to a council of state officials and advisers in ancient Rome. The modern usage of the term emerged in the 18th century, with the development of probability theory and the systematic collection and analysis of demographic, economic, and social data. During the 19th and 20th centuries, statistics evolved rapidly as a formal discipline with the development of mathematical theories and techniques for data analysis. Pioneers such as Sir Francis Galton, Karl Pearson, and Ronald Fisher made significant contributions to the theoretical and practical aspects of statistics, laying the foundation for modern statistical methods and inference. Today, statistics is a vital tool used in various fields ranging from science and engineering to social sciences and business, driving advancements in research, decision-making, and policy formulation.

1.3 APPLICATION OF STATISTICS

- Statistical Modeling
- Government Agencies
- Science and Medicine
- Psychology
- Education
- Corporate Sectors
- Public Surveying
- Financial Markets
- Predicting Diseases
- Robotics
- Aerospace
- Machine Learning
- Business Statistics
- Sports

1.4 SOFTWARES USED IN STATISTICS

- ❖ R
- ❖ PYTHON
- ❖ SAS
- ❖ SPSS
- ❖ STATA
- ❖ MATLAB
- ❖ EXCEL



2.MEAN AND STANDARD DEVIATION

2.1 MEAN

In statistics, the mean is one of the measures of central tendency, apart from the mode and median. Mean is nothing but the average of the given set of values. It denotes the equal distributions of values for a given data set. The mean, media, and mode are the three commonly used measures of central tendency. To calculate the mean, we need to add the total values given in a datasheet and divide the sum by the total number of values.

2.1.1 FORMULA FOR MEAN

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

- \bar{x} is the mean
- x_i represents each individual value in the data set
- n is the total number of values in the data set

2.1.2 USES OF MEAN

- Budgeting
- Grading
- Sports
- Marketing research
- Healthcare
- Nutrition

2.2 STANDARD DEVIATION

The standard deviation indicates a “typical” deviation from the mean. It is a popular measure of variability because it returns to the original units of measure of the data set. Like the variance, if the data points are close to the mean, there is a small variation whereas the data points are highly spread out from the mean, then it has a high variance.

Standard deviation calculates the extent to which the values differ from the average. Standard Deviation, the most widely used measure of dispersion, is based on all values.

Therefore a change in even one value affects the value of standard deviation. It is independent of origin but not of scale. It is also useful in certain advanced statistical problems.

Standard deviation, denoted by the symbol σ , describes the square root of the mean of the squares of all the values of a series derived from the arithmetic mean which is also called the root-mean-square deviation. 0 is the smallest value of standard deviation since it cannot be negative. When the elements in a series are more isolated from the mean, then the standard deviation is also large.

2.2.1 FORMULA FOR STANDARD DEVIATION

$$\sigma = \sqrt{\frac{\sum(X-\mu)^2}{N}}$$

- σ is the standard deviation
- x represents each individual value
- μ is the mean
- N is the total number of values

2.2.2 USES OF STANDARD DEVIATION

- Finance and Investing
- Quality control
- Education



3. NUTRITIONAL NEEDS AND HEALTH IN ADULTHOOD

3.1 INTRODUCTION

Community nutrition is the field that targets to provide education and resources to the community to meet their requirements. Community includes group of individuals in a safe environment. It is a period in human lifespan where full physical and intellectual maturity has been developed. During adulthood, they require a wide range of nutrients for various functions and growth development in the body. Adulthood begins at age of 20 or 21 years. During adulthood the developmental changes occurs in both biological and psychological characters in human life. These changes may be gradual or rapid process. Changes occur at cellular levels and these changes are explained by biological theories. The adulthood is explained by two definitions. They are legal and socio cultural definitions. The legal definition says that the adult is a person who is fully grown and developed. The socio cultural definition says that, being an adult is based on cultural normatively as required criteria. Personality change and stability occurs in adulthood. For example, self-confidence, warmth, self-control and emotional stability. During adulthood, not only physical changes occur but also there is a change in psychological changes that occurs throughout the lifespan. Intellectual development throughout the lifespan is characterized by stability and improvement. Primary mental abilities contribute to intelligent behavior. And they include word influence, verbal comprehension. Fluid intelligence steadily declines during adulthood.

3.2 SELECTION OF TOPIC

Adults are the transitional period between childhood and adulthood. During this period individual move towards physical and psychological maturity, and economic independence and acquire their adult identity. In a survey, only 39% of adulthood was reported eating nutritious food. Nutritional deficiencies and poor eating habits established during adolescence can have long-term consequences, including delayed sexual maturation and obesity. Adults have less awareness about healthy eating. Hence it is essential to assess the nutritional status of adults.

3.3 SELECTION OF AREA

The area chosen for conducted of survey was Kammalapatti. Kammalapatti village is located in Sulur taluk of Coimbatore district in Tamil Nadu India. It is situated 30 km away from sub-district headquarter Sulur and 53 km away from district headquarter Coimbatore. Kammalapatti local languages are Tamil and English. Kammalapatti village total population is 2654 and number of houses are 777. Female population is 50.3% and village literacy rate is 62.4% and female literacy rate is 27.2%.

3.4 SELECTION OF SUBJECT

Adults of age (26-60) years were selected for the study based on their willingness to participate in the study. An interview schedule was prepared to collect the data.

3.5 SELECTION OF TOOL

The tool used for this study was interview schedule. It helps to collect the accurate information and help to collect the primary data from the study participants.

3.6 RESULT AND DISCUSSION

The result and discussion pertaining to the present study “Daily wages adults” is discussed under the following heading.

3.6.1 PERSONAL INFORMATION

- Gender of the selected participants
- Age wise distribution of the selected participants

3.6.2 SOCIO ECONOMIC FACTORS

- Occupation of the head of the family
- Total income of the family per month

3.6.3 MEDICAL HISTORY OF THE SELECTED PARTICIPANTS

- Medical history of the selected participants

3.6.4 DIETARY ASSESSMENT

- Dietary Assessment



4. COLLECTION OF DATA

4.1 PERSONAL INFORMATION

4.1.1 GENDER OF THE SELECTED PARTICIPANTS:

Gender wise distribution of the selected participants is given

N=30

S.NO	GENDER	NUMBER OF PARTICIPANTS	PERCENTAGE
1	Male	3	10
2	Female	27	90
	TOTAL	30	100

The above table shows that in the present study 10% of the gender were men and majority 90 % of were women.

4.1.2 AGE WISE DISTRIBUTION OF THESELECTED PATICIPANTS:

Age wise distributions of the selected participants are given in a table.

N=30

S.NO	AGE	MALE	PERCENTAGE	FEMALE	PERCENTAGE
1	30-40	0	0	3	10
2	46-50	0	0	2	6.66
3	51-60	0	0	12	40
4	61-70	3	10	8	36.6
5	71-80	0	0	2	6.66
	TOTAL	3	10	27	90

The above table shows that 10% adult men were in the age between 35-45 years,6.66% adult women were in the age between 46-50 years,40% adult woman were in the age between 51-60 years and 36.6% adult woman were in the age between years 61-70 and 6.6% adult woman were in the age between years 71-80.

4.2. OCCUPATION OF THE SELECTED PARTICIPANTS

The present study shows that 100 % adults were skilled workers.

4.2.1 TOTAL PER CAPITA FAMILY INCOME PER MONTH

N=30

S.NO	INCOME PER CAPITA	NUMBER OF PARTICIPANTS	PERCENTAGE
1	2000 and above	17	56.5
2	Rs 1000-1999	1	3.3
3	Rs 750-999	12	40
	TOTAL	30	100

The above table indicates that among 56.6% of participants have a daily wages above 2000, and 3.3% of participants have a daily wages between 1000 - 1999 and 40% of participants have a daily wages between 750 - 999.

4.3 MEDICAL HISTORY OF THE SELECTED PARTICIPANTS

Medical history of the selected participants

N=30

S.NO	MEDICAL HISTORY	NUMBER OF PARTICIPANTS	PERCENTAGE
1	Diabetes	7	23.3
2	Hypertension	8	36.6
3	Heart disease	4	13.3
4	Neurological Issue	4	13.3
5	Skin diseases	3	10
6	Pulmonary diseases	2	6.66
7	None	2	6.66

The above table shows that 23.3% of adults have diabetes and 36.6% of adults have Hypertension and 13.3% have Heart disease and 13.3 % have neurological problems and 10% have Skin disease and 6.66 % have Pulmonary disease and 6.66% have none of these.

4.4 DIETARY ASSESSMENT

N=30

DIETARY ASSESSMENT	YES	NO	PERCENTAGE FOR YES	PERCENTAGE FOR NO
Skipping breakfast	16	14	53.3	46.6
Food allergy	3	27	10	90
Exercise	2	28	6.66	93.34
Drinking alcohol	1	29	3.33	96.67
Smoking	2	28	6.66	93.34
Drinking coffee or tea	30	0	100	0

The above table shows that 53.3% of adults skipping breakfast and 46.6% of adults were not skipping breakfast and 10.0% of adults have food allergy and 90% of adults do not have food allergy and 6.66% of adults have do exercise and 93.34% of adults do not exercise and 33.3 % of adults have Drinking alcohol and 96.67% of adults do not drinking alcohol and 6.66% of adults have Smoking and 93.34% of adults do not smoking and 100% of adults have habit of Drinking coffee or tea.



5. CONVERSION OF DATA

WE CONVERTED THE COLLECTED DATA INTO A SUMMARIZATION

In a village there are 30 individuals, the distribution of diseases is as follows

- 7 individuals have diabetes,
- 8 individuals have hypertension,
- 4 individuals have heart disease,
- 4 individuals have neurological Issue,
- 3 individuals have skin disease,
- 2 individuals have pulmonary disease, and
- 2 individuals have no disease.

5.1 TABLE

DISEASE	NUMBER OF PEOPLE
Diabetes	7
Hypertension	8
Heart Disease	4
Neurological Issue	4
Skin Disease	3
Pulmonary Disease	2
None	2



6. PROBLEM

In a village there are 30 individuals, the distribution of diseases is as follows

- 7 individuals have diabetes,
- 8 individuals have hypertension,
- 4 individuals have heart disease,
- 4 individuals have neurological Issue,
- 3 individuals have skin disease,
- 2 individuals have pulmonary disease, and
- 2 individuals have no disease.

6.1 TABLE

DISEASE	NUMBER OF PEOPLE
Diabetes	7
Hypertension	8
Heart Disease	4
Neurological Issue	4
Skin Disease	3
Pulmonary Disease	2
None	2

Find the MEAN and STANDARD DEVIATION.



7. SOLUTION

N=30

DISEASE	NUMBER OF PEOPLE
Diabetes	7
Hypertension	8
Heart Disease	4
Neurological Issue	4
Skin Disease	3
Pulmonary Disease	2
None	2

Total number of people = 30

Let's calculate the mean for each disease category

7.1 TO CALCULATE THE MEAN, WE WILL USE THE FORMULA:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

Where:

- \bar{x} is the mean
- x_i represents each individual value in the data set
- n is the total number of values in the data set

Let's calculate it

- Diabetes

$$7/30 \approx 0.233$$

- Hypertension

$$8/30 \approx 0.267$$

- Heart Disease

$$4/30 \approx 0.133$$

- Neurological Issue

$$4/30 \approx 0.133$$

- Skin Disease

$$3/30 = 0.1$$

- Pulmonary Disease

$$2/30 \approx 0.067$$

- None

$$2/30 \approx 0.067$$

$$\text{Average mean} = \frac{0.233 + 0.267 + 0.133 + 0.133 + 0.1 + 0.067 + 0.067}{7}$$

$$\text{Average mean} = 0.1428$$

7.1 TO CALCULATE THE STANDARD DEVIATION, ACTUAL FORMULA IS

$$\sigma = \sqrt{\frac{\sum(x-\mu)^2}{N}}$$

- σ is the standard deviation
- x represents each individual value
- μ is the mean
- N is the total number of values

WE WILL USE THE FORMULA

$$\sigma = \sqrt{\frac{(\mu*(1-\mu))}{N}}$$

- σ is the standard deviation
- μ is the mean
- N is the individual value

Let's calculate it

- Diabetes

$$\mu \approx 0.2333$$

$$\sigma = \sqrt{\frac{(0.2333*(1-0.2333))}{1}}$$

$$\sigma \approx 0.4229$$

- Hypertension

$$\mu \approx 0.2667$$

$$\sigma = \sqrt{\frac{(0.2667 * (1 - 0.2667))}{1}}$$

$$\sigma \approx 0.4422$$

- Heart Disease

$$\mu \approx 0.1333$$

$$\sigma = \sqrt{\frac{(0.1333 * (1 - 0.1333))}{1}}$$

$$\sigma \approx 0.3398$$

- Neurological Issue

$$\mu \approx 0.1333$$

$$\sigma = \sqrt{\frac{(0.1333 * (1 - 0.1333))}{1}}$$

$$\sigma \approx 0.3398$$

- Skin Disease

$$\mu = 0.1$$

$$\sigma = \sqrt{\frac{(0.1 * (1 - 0.1))}{1}}$$

$$\sigma = 0.3$$

- Pulmonary Disease

$$\mu \approx 0.0667$$

$$\sigma = \sqrt{\frac{(0.0667 * (1 - 0.0667))}{1}}$$

$$\sigma \approx 0.2495$$

- None

$$\mu \approx 0.0667$$

$$\sigma = \sqrt{\frac{(0.0667 * (1 - 0.0667))}{1}}$$

$$\sigma \approx 0.2495$$



8. PYTHON FOR DATA ANALYSIS

8.1 PYTHON

Python is a Programming language that is interpreted, object-oriented, and considered to be high-level too. Python is one of the easiest yet most useful programming languages which are widely used in the software industry. People use Python for Competitive Programming, Web Development, and creating software. Due to its easiest syntax, it is recommended for beginners who are new to the software engineering field. Its demand is growing at a very rapid pace due to its vast use cases in Modern Technological fields like Data Science, Machine learning, and Automation Tasks. For many years now, it has been ranked among the top Programming languages.

Python is a set of instructions that we give in the form of a Programme to our computer to perform any specific task. It is a Programming language having properties like it is interpreted, object-oriented and it is high-level too. Due to its beginner-friendly syntax, it became a clear choice for beginners to start their programming journey. The major focus behind creating it is making it easier for developers to read and understand, also reducing the lines of code.

8.2 HISTORY OF PYTHON

Python was created in 1980s by Guido van Rossum. During his research at the National Research Institute for Mathematics and Computer Science in the Netherlands, he created Python a super easy programming language in terms of reading and usage. The first ever version was released in the year 1991 which had only a few built-in data types and basic functionality.

8.3 ADVANTAGES OF PYTHON

- Easy to learn, read, and understand
- Versatile and open-source
- Improves productivity
- Supports libraries
- Huge library
- Strong community

8.4 DISADVANTAGES OF PYTHON

- Restrictions in design
- Memory inefficient
- Weak mobile computing
- Runtime errors
- Slow execution speed

8.5 USES AND APPLICATIONS OF PYTHON

1. Web Development
2. Data Science
3. Web Scrapping and Automation
4. CAD (computer-aided designs)
5. Artificial Intelligence and Machine Learning
6. Game Development

8.6.2 OUTPUT

Mean and Standard Deviation for each disease:

Diabetes: Mean = 0.2333333333333334 Std Deviation = 0.42295258468165065

Hypertension: Mean = 0.2666666666666666 Std Deviation = 0.4422166387140533

Heart Disease: Mean = 0.1333333333333333 Std Deviation = 0.33993463423951903

Neurological Problem: Mean = 0.1333333333333333 Std Deviation = 0.33993463423951903

Skin Disease: Mean = 0.1 Std Deviation = 0.3000000000000004

Pulmonary Disease: Mean = 0.0666666666666667 Std Deviation = 0.24944382578492943

None Disease: Mean = 0.0666666666666667 Std Deviation = 0.0666666666666667



CONCLUSION

By using PYTHON PROGRAMMING allows for automation, faster calculations, and the ability to handle easily with large datasets while comparing to MANUAL WORKING a sum can be prone to human error and can be time-consuming, especially for complex calculations.

From the result, the adult population aged 45-80 years were affected from the disease like Heart attack, Pulmonary disease, Skin disease, Neurological Issue. Because they are not aware of Nutrition and they are prone to many diseases. We conclude that if we conduct the importance of implementing targeted nutritional interventions and educational programs aimed at improving the dietary habits and overall health outcomes of the adult population aged 45-80 years. By addressing these Issues, it is possible to reduce the incidence of nutrition-related diseases and enhance the well-being of the community.

BIBLIOGRAPHY

BIBLIOGRAPHY

- **STATISTICS**, Dr. B. N. GUPTA, INDIAN INSTITUTE OF PUBLIC ADMINISTRATION, NEW DELHI.
- **STATISTICS**, Dr. S. P. GUPTA, FACULTY OF MANAGEMENT STUDIES, NEW DELHI
- **STATISTICS**, R. S. N. PILLAI AND BAGAVATHI, S. CHAND & COMPANY LTD, NEW DELHI.
- **PYTHON**, ASHOK NAMDEV KAMTHANE AND AMIT ASHOK KAMTHANE, MAHARASHTRA.
- **PYTHON PROGRAMMING**, S. SRIDHAR, J. INDHUMATHI AND V.M. HARIHARAN, CHENNAI
- **WIKIPEDIA**
 - <https://en.wikipedia.org/wiki/Statistics#:~:text=Statistics%20is%20a%20mathematical%20body,than%20a%20branch%20of%20mathematics>.
 - <https://www.python.org/>
 - <https://www.coursera.org/articles/what-is-python-used-for-a-beginners-guide-to-using-python>

Thank You!