PYTHON PROGRAMMING LANGUAGE: AN IDEAL CHOICE FOR BEGINNER PROGRAMMERS

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Abstract: *Python is many in the fields applicable , high at the level intuitive and strong programming language . This Python programming in the article of the language to oneself its uniqueness , its development history and modern software supply in the field wide application about word Also , the information analysis , artificial intelligence , web programming and automation Python language in the fields how application shown .*

Key words: *Python, programming , artificial intelligence , information analytics , web programming , automation , machine learning learning , cross-platform .*

LOGIN

Python is a programming language created in 1991 by Guido van Rossum. working issued high level programming language . Today It is different every day. in the fields – web and mobile programs when creating , data analysis and scientific in computing , artificial intellect and car in learning wide Python 's simplicity , strength libraries existence and open source him/her the most popular programming from their languages to one converted .

Python programming of the language historical development

Python programming language by Guido van Rossum in the 1980s working come out Python language started . first version introduced in 1991 done is , he is his simplicity and reading ease with famous Python 2.x was developed in the 2000s . issued there are many updates and features own inside Python 3.x was released in 2008 . and today's on the day the most many being used is a version .

Python programming of the language features

Python is simple syntax and high reading level with separated It stands for programmers . code to write in acceleration help gives . In this case , the functions additional without writing call , arrays easily management , many libraries easily integration and use opportunity It also provides support for Python platform . related non- (cross-platform) feature has Linux , Windows and On macOS easily works .

Python application

Information analysis and scientific calculation

Like NumPy, Pandas, Matplotlib libraries Python information analysis and visualization for the most acceptable to the competition It turns . With this together with , SciPy, seaborn and StatsModels such as libraries scientific calculation and statistic analyses for wide opportunity creates .

Information analysis and scientific Python has its own way of calculating various libraries and tools with high at the level flexibility and efficiency provides . Below this libraries about wider information given :

1. NumPy

NumPy (Numerical Python) is scientific and calculation problems solution to do for used main from libraries It is one of the arrays . and matrices with to work facilitates and mathematician functions with to them fast processing to give provides .

Home possibilities :

Dimensions big was arrays fast and effective work

Many mathematician and statistic functions own inside takes , including trigonometric and algebraic actions .

Using NumPy arrays numbers , vectors and matrices with comfortable work opportunity gives .

Application Industry : Many dimensional information again work and scientific calculation for wide is applied .

2. Pandas

Pandas are information analysis to do and again work for comfortable library is different kind information structures management and again work opportunity Pandas basically gives two main structure - DataFrame (table) similar data) and Series (a dimensional data) with works .

Home possibilities :

Data reading and to write for wide extensive formats supports (CSV, Excel, SQL, JSON).

Filter , sort , group and aggregation to do such as analysis functions done increase

Data to time based analysis to do and again work

Application Industry : Financial analysis , social sciences and various in the fields big in size information management and analysis to do for wide is applied .

3. Matplotlib

Matplotlib is for Python graphic drawing library is different kind diagrams and graphs to create opportunity He gives research . and reports for necessary was visualization done in increasing is used .

Home possibilities :

Line , column , pie and other kind of graphs create

Picture , diagram and graphs personalization and them formatting .

2D and 3D graphics create opportunity .

Application Industry : Any scientific research and in analyses information visualization in doing wide used , especially statistic information understanding and analysis to do for .

4. SciPy

SciPy (Scientific Python) is scientific calculation Python library for is , algebra, optimization , integration , Fourier transform such as complicated mathematician functions to perform opportunity gives .

Home possibilities :

Algebraic and statistic analyses to do .

Alarm and the picture again work

Scientific modeling and optimization .

Application Field : Scientific research , engineering and technician calculation for important tool is considered .

5. Seaborn

Seaborn - Based on Matplotlib built visualization library is , statistically information visualization to do further makes it easier and aesthetic in terms of high good quality graphs to create opportunity gives .

Home possibilities :

Text and various statistics based on complex graphs create

With Matplotlib integrated without use ease .

Data grouping and statistics clear representative graphics create

Application Field : Statistics analysis and correlation show for very suitable.

6. StatsModels

StatsModels - statistician analysis and information modeling done increase for created library . U regression , ANOVA, time rows analysis to do such as statistic models to compose opportunity gives .

Home possibilities :

Statistical models , including regression , middle and variance analysis done increase

Model detection , testing and assessment for special functions .

Illuminated parameters explanation and the results performances .

Application Field : Economics , sociology , psychology and statistic research for wide is applied .

This libraries Using Python data analysis to do , visualization to do and scientific calculation for perfect platform as own instead of has These libraries will be not only software problems solution to do , maybe complicated information based on decision acceptance help in making gives .Artificial intellect and car study

Python's TensorFlow, Keras , PyTorch such as libraries car study models in creation wide is used . Today on the day artificial intellect field fast pace with developed , it has many new innovative Python is demanding solutions . artificial intellect in development place beautiful is considered .

Web programming

Like Django and Flask web frameworks using modern websites and APIs create Django can do it himself . strong security system and expandability with famous If , Flask will use its lightness and flexibility with known .

Automation

Python scripts with various systems automation , data again work and processes management This is possible . opportunities not only software supply , maybe other big in the fields too place holds .

Python technician advantages and restrictions

Python is simple and strong to syntax has happened because of new leaders It is an ideal choice for . interpretation to do opportunity there is is , code written immediately from the test transfer possible . With this together , Python many libraries and frames existence him/her many for purposes wide application opportunity creates . However, Python has some in cases slowly performance possible , especially severe requiring calculations programs for this and of the language from the shortcomings is one .

Future prospects

Python development continue is doing and his/her artificial intelligence , machine study , big in the fields of data (Big Data) wide application him/her future leader programming from their languages one become to stay hint does . From this except , quantum calculation and cloudy Python is the mainstay in technology from tools one as own instead of has .

Conclusion

Python programming language simple and convenience with programmers between wide widespread is , its opportunities day by day expanding Using Python created solutions and their various to the sectors influence , modern of technologies to develop huge contribution is adding .

USED LITERATURE:

1. Jamshed o'g'li, M. J. (2024). RAQAMLI ASRDA KIBERXAVFSIZLIKNING AHAMIYATI. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 27-34.
2. Jamshed o'g'li, M. J. (2024). ZAMONAVIY IT INFRATURUKTURADA TARMOQLARNING O'RNI. WORLD OF SCIENCE, 7(8), 42-48.
3. Jamshed o'g'li, M. J. (2024). BULUT TEXNOLOGIYASI RAQAMLI TRANSFORMASIYANI QANDAY BOSHQARDI. MASTERS, 2(8), 29-36.
4. Мунировв, Д. Д. О. (2024). КАК ОБЛАЧНЫЕ ТЕХНОЛОГИИ СПОСОБСТВУЮТ ЦИФРОВОЙ ТРАНСФОРМАЦИИ. MASTERS, 2(8), 44-51.
5. Мунировв, Д. Д. О. (2024). РОЛЬ СЕТЕЙ В СОВРЕМЕННОЙ ИТ-ИНФРАСТРУКТУРЕ. WORLD OF SCIENCE, 7(8), 27-34.
6. Мунировв, Д. Д. О. (2024). ВАЖНОСТЬ КИБЕРБЕЗОПАСНОСТИ В ЦИФРОВУЮ ЭПОХУ. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 35-42
7. Раджабов, А. Р. (2024). РОЛЬ ЯЗЫКА ПРОГРАММИРОВАНИЯ FLUTTER В СОЗДАНИИ МОБИЛЬНЫХ ПРИЛОЖЕНИЙ. WORLD OF SCIENCE, 7(8), 49-54.
8. Раджабов, А. Р. (2024). СТРУКТУРЫ ДАННЫХ И АЛГОРИТМЫ. MASTERS, 2(8), 58-63.
9. Раджабов, А. Р. (2024). СТРУКТУРА БАЗЫ ДАННЫХ: POSTGRESQL. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 56-61.
10. Ravshan o'g'li, R. A. (2024). MOBIL ILOVALARINI YARATISHDA FLUTTER DASTURLASH TILINI O'RNI. WORLD OF SCIENCE, 7(8), 55-60.
11. Ravshan o'g'li, R. A. (2024). MA'LUMOTLAR TUZULMASI VA ALGORITMLASH. MASTERS, 2(8), 64-69.
12. Ravshan o'g'li, R. A. (2024). DATA STRUCTURES AND ALGORITHMS. MASTERS, 2(8), 52-57.
13. Ravshan o'g'li, R. A. (2024). MA'LUMOTLAR BAZASI TUZILMASI: POSTGRESQL MA'LUMOTLAR BAZASI. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 62-67.

14. Ravshanovich, A. R. (2024). DATABASE STRUCTURE: POSTGRESQL DATABASE. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 50-55.

15. Rajabov, A. R. (2024). FLUTTER PROGRAMMING LANGUAGE IN CREATING MOBILE APPLICATIONS. WORLD OF SCIENCE, 7(8), 61-66.

16. Jalolov, T. S. (2024). ПОРЯДОК СОЗДАНИЯ ПСИХОЛОГИЧЕСКИХ ТЕСТОВЫХ ПРОГРАММ. PEDAGOG, 7(6), 145-152.

17. Jalolov, T. S. (2024). BOSHLANG'ICH SINF O'QUVCHILARIDA MULTIMEDIA TEXNOLOGIYALARI ORQALI IJODIY FIKRLASHNI KUCHAYTIRISH. BIOLOGIYA VA KIMYO FANLARI ILMIY JURNALI, 2(5), 64-70.

18. Jalolov, T. S. (2023). PYTHON DASTUR TILIDADA WEB-ILOVALAR ISHLAB CHIQISH. TECHNICAL SCIENCE RESEARCH IN UZBEKISTAN, 1(5), 160-166.

19. Jalolov, T. S. (2024). ENHANCING CREATIVE THINKING IN ELEMENTARY SCHOOL STUDENTS THROUGH MULTIMEDIA TECHNOLOGIES. WORLD OF SCIENCE, 7(5), 114-120.

20. Jalolov, T. S. (2024). ВАЖНОСТЬ АНГЛИЙСКОГО ЯЗЫКА В ПРОГРАММИРОВАНИИ. MASTERS, 2(5), 55-61.

21. Jalolov, T. S. (2023). MATH MODULES IN C++ PROGRAMMING LANGUAGE. Journal of Universal Science Research, 1(12), 834-838.

22. Jalolov, T. S. (2024). EXPLORING THE MATHEMATICAL LIBRARIES OF PYTHON: A COMPREHENSIVE GUIDE. WORLD OF SCIENCE, 7(5), 121-127.

23. Jalolov, T. S. (2024). THE IMPORTANCE OF ENGLISH IN PROGRAMMING. WORLD OF SCIENCE, 7(5), 128-134.

24. Jalolov, T. S. (2024). ИЗУЧЕНИЕ МАТЕМАТИЧЕСКИХ БИБЛИОТЕК PYTHON: ПОДРОБНОЕ РУКОВОДСТВО. MASTERS, 2(5), 48-54.

25. Jalolov, T. S. (2023). PYTHON INSTRUMENTLARI BILAN KATTA MA'LUMOTLARNI QAYTA ISHLASH. Educational Research in Universal Sciences, 2(11 SPECIAL), 320-322.

26. Jalolov, T. S. (2024). DASTURLASHDA INGLIZ TILINING AHAMIYATI. BIOLOGIYA VA KIMYO FANLARI ILMIY JURNALI, 2(5), 78-84.

27. Jalolov, T. S. (2023). Artificial intelligence python (PYTORCH). Oriental Journal of Academic and Multidisciplinary Research, 1(3), 123-126.

28. Jalolov, T. S. (2023). WORKING WITH MATHEMATICAL FUNCTIONS IN PYTHON. TECHNICAL SCIENCE RESEARCH IN UZBEKISTAN, 1(5), 172-177.

29. Jalolov, T. S. (2023). SPSS YOKI IJTIMOIY FANLAR UCHUN STATISTIK PAKET BILAN PSIXOLOGIK MA'LUMOTLARNI QAYTA ISHLASH. Journal of Universal Science Research, 1(12), 207-215.

30. Jalolov, T. S. (2023). Solving Complex Problems in Python. American Journal of Language, Literacy and Learning in STEM Education (2993-2769), 1(9), 481-484.

31. Sadriddinovich, J. T. (2023). IDENTIFYING THE POSITIVE EFFECTS OF PSYCHOLOGICAL AND SOCIAL WORK FACTORS BETWEEN INDIVIDUALS AND DEPARTMENTS THROUGH SPSS SOFTWARE. In INTERNATIONAL SCIENTIFIC RESEARCH CONFERENCE (Vol. 2, No. 18, pp. 150-153).

32. Jalolov, T. (2023). UNDERSTANDING THE ROLE OF ATTENTION AND CONSCIOUSNESS IN COGNITIVE PSYCHOLOGY. Journal of Universal Science Research, 1(12), 839-843.

33. Jalolov, T. S. (2023). SUN'IY INTELLEKTDA PYTHONNING (PYTORCH) KUTUBXONASIDAN FOYDALANISH. TECHNICAL SCIENCE RESEARCH IN UZBEKISTAN, 1(5), 167-171.

34. Jalolov, T. S. (2023). PYTHON TILINING AFZALLIKLARI VA KAMCHILIKLARI. TECHNICAL SCIENCE RESEARCH IN UZBEKISTAN, 1(5), 153-159.

35. Sadriddinovich, J. T. (2024). ANALYSIS OF PSYCHOLOGICAL DATA IN ADOLESCENTS USING SPSS PROGRAM. PEDAGOG, 7(4), 266-272.

36. Jalolov, T. S. (2023). TEACHING THE BASICS OF PYTHON PROGRAMMING. International Multidisciplinary Journal for Research & Development, 10(11).

37. Jalolov, T. S. (2023). THE MECHANISMS OF USING MATHEMATICAL STATISTICAL ANALYSIS METHODS IN PSYCHOLOGY. TECHNICAL SCIENCE RESEARCH IN UZBEKISTAN, 1(5), 138-144.

38. Jalolov, T. S. (2024). PYTHONDA MATEMATIK STATISTIK TAHLIL HAQIDA. WORLD OF SCIENCE, 7(5), 583-590.

39. Jalolov, T. S. (2024). DJANGO'S ROLE IN WEB PROGRAMMING. MASTERS, 2(5), 129-135.

40. Jalolov, T. S. (2024). PYTHON LIBRARIES IN HIGH VOLUME DATA PROCESSING. WORLD OF SCIENCE, 7(5), 561-567.

41. Jalolov, T. S. (2024). ИСПОЛЬЗОВАНИЕ API В PYTHON: ПОДРОБНОЕ РУКОВОДСТВО. WORLD OF SCIENCE, 7(5), 553-560.

42. Jalolov, T. S. (2024). МАТЕМАТИЧЕСКОМ СТАТИСТИЧЕСКОМ АНАЛИЗЕ В PYTHON. MASTERS, 2(5), 151-158.

43. Jalolov, T. S. (2024). LEVERAGING APIS IN PYTHON: A COMPREHENSIVE GUIDE. WORLD OF SCIENCE, 7(5), 544-552.

44. Jalolov, T. S. (2024). DJANGONING VEB-DASTURLASHDAGI ROLI. WORLD OF SCIENCE, 7(5), 576-582.

45. Jalolov, T. S. (2024). PYTHON-DA API-LARDAN FOYDALANISH: KENG QAMROVLI QO'LLANMA. MASTERS, 2(5), 113-120.

46. Jalolov, T. S. (2024). YUQORI HAJMLI MA'LUMOTLARNI QAYTA ISHLASHDA PYTHON KUTUBXONALARI. MASTERS, 2(5), 121-128.

47. Jalolov, T. S. (2024). DJANGO В ВЕБ-ПРОГРАММИРОВАНИИ. MASTERS, 2(5), 136-142.

48. Jalolov, T. S. (2023). ADVANTAGES OF DJANGO FEMWORKER. International Multidisciplinary Journal for Research & Development, 10(12).

49. Jalolov, T. S. (2023). Programming languages, their types and basics. Technical science research in Uzbekistan, 1(5), 145-152.

50. Jalolov, T. S. (2023). PEDAGOGICAL-PSYCHOLOGICAL FOUNDATIONS OF DATA PROCESSING USING THE SPSS PROGRAM. INNOVATIVE DEVELOPMENTS AND RESEARCH IN EDUCATION, 2(23), 220-223.

51. Jalolov, T. S. (2023). Programming languages, their types and basics. Technical science research in Uzbekistan, 1(5), 145-152.

52. Jalolov, T. S. (2024). ЗНАЧЕНИЕ ИНФОРМАЦИОННОЙ КОММУНИКАЦИИ В ВЫСШЕМ ОБРАЗОВАНИИ. MASTERS, 2(8), 1-7.

53. Jalolov, T. S. (2024). SPSS S DASTURIDAN PSIXOLOGIK MA'LUMOTLARNI TAHLILIDA FOYDALANISH. MASTERS, 2(8), 8-14.

54. Jalolov, T. S. (2024). OLIY TA'LIMDA AXBOROT MUMKINASINING AHAMIYATI. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 21-26.

55. Jalolov, T. S. (2024). USE OF SPSS SOFTWARE IN PSYCHOLOGICAL DATA ANALYSIS. PSIXOLOGIYA VA SOTSIOLOGIYA ILMIY JURNALI, 2(7), 1-6.

56. Jalolov, T. S. (2024). THE IMPORTANCE OF INFORMATION COMMUNICATION IN HIGHER EDUCATION. WORLD OF SCIENCE, 7(8), 14-19.

57. Jalolov, T. S. (2024). ИСПОЛЬЗОВАНИЕ ПРОГРАММНОГО ОБЕСПЕЧЕНИЯ SPSS В АНАЛИЗЕ ПСИХОЛОГИЧЕСКИХ ДАННЫХ. WORLD OF SCIENCE, 7(8), 20-26.

58. Jalolov, T. S. (2024). MATHEMATICAL STATISTICAL ANALYSIS IN PYTHON. MASTERS, 2(5), 143-150.

59. Jalolov, T. S. (2024). БИБЛИОТЕКИ PYTHON ДЛЯ ОБРАБОТКИ БОЛЬШИХ ОБЪЕМОВ ДАННЫХ. WORLD OF SCIENCE, 7(5), 568-575.

60. Jalolov, T., & Ramazonov, J. (2024). GRASS ERASING ROBOT. Multidisciplinary Journal of Science and Technology, 4(2), 173-177.

61. Jalolov, T. (2024). FRONTEND AND BACKEND DEVELOPER DIFFERENCE AND ADVANTAGES. Multidisciplinary Journal of Science and Technology, 4(2), 178-179.

62. Sadriddinovich, J. T., & Abdurasul o'g'li, R. J. (2024). UNIVERSAL ROBOTLASHTIRILGAN QURILMA. BIOLOGIYA VA KIMYO FANLARI ILMIY JURNALI, 2(9), 78-80.

63. Sadriddinovich, J. T., & Abdurasul o'g'li, R. J. (2024). SHIFOXONADA XIZMAT KO'RSATISH UCHUN MO'LJALLANGAN AQILLI SHIFOKOR ROBOT. THEORY AND ANALYTICAL ASPECTS OF RECENT RESEARCH, 3(26), 318-324.

64. Sadriddinovich, J. T., & Abdurasulovich, R. J. (2024). INTRODUCTION TO PYTHON'S ROLE IN ROBOTICS. PEDAGOGICAL SCIENCES AND TEACHING METHODS, 3(34), 202-204.

65. Sadriddinovich, J. T., & Muhiddinovna, M. M. (2024). BACKEND HAQIDA MA'LUMOT. FORMATION OF PSYCHOLOGY AND PEDAGOGY AS INTERDISCIPLINARY SCIENCES, 3(30), 34-37.

66. Sadriddinovich, J. T., & Muhiddinovna, M. M. (2024). WEB PROGRAMMING INFORMATION. SUSTAINABILITY OF EDUCATION, SOCIO-ECONOMIC SCIENCE THEORY, 2(19), 232-234.