

The Waite Group

ASSEMBLY LANGUAGE PRIMER *for the* IBM[®] PC & XT



**Features Color Graphics and
DOS Function Calls**

- Unique, Easy-to-Learn Approach
- Graphics and Sound Programming
- Includes DEBUG, Disk Access, and File Handles
- Covers Novice to Advanced Levels

by Robert Lafore

Basic Primer For The Ibm Pc And Xt

Huangqi Zhang



Basic Primer For The Ibm Pc And Xt:

The BASIC Primer for the IBM PC and XT Bernd Enders, 1984-05-29 Basic Primer for the IBM PC Bernd Enders, 1984-05-29 **PC Mag** , 1984-06-12 PCMag com is a leading authority on technology delivering Labs based independent reviews of the latest products and services Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology **Softalk for the IBM Personal Computer** , 1984-06 *Bowker's Complete Sourcebook of Personal Computing*, 1985 R.R. Bowker Company, 1984 Provides Listings of Hardware Software Peripherals Currently Available as Well as Books Magazines Clubs User Groups Virtually All Other Microcomputer related Services Includes Background Information Glossary The Cumulative Book Index , 1986 A world list of books in the English language **Byte** , 1984-04 PC , 1984-06 **PC World** , 1984 Map Projections Theory and Applications Frederick Pearson, II, 1990-03-28 About the Author Frederick Pearson has extensive experience in teaching map projection at the Air Force Cartography School and Virginia Polytechnic Institute He developed star charts satellite trajectory programs and a celestial navigation device for the Aeronautical Chart and Information Center He is an expert in orbital analysis of satellites and control and guidance systems At McDonnell Douglas he worked on the guidance system for the space shuttle This text develops the plotting equations for the major map projections The emphasis is on obtaining usable algorithms for computed aided plotting and CRT display The problem of map projection is stated and the basic terminology is introduced The required fundamental mathematics is reviewed and transformation theory is developed Theories from differential geometry are particularized for the transformation from a sphere or spheroid as the model of the earth onto a selected plotting surface The most current parameters to describe the figure of the earth are given Formulas are included to calculate meridian length parallel length geodetic and geocentric latitude azimuth and distances on the sphere or spheroid Equal area conformal and conventional projection transformations are derived All result in direct transformation from geographic to cartesian coordinates For selected projections inverse transformations from cartesian to geographic coordinates are given Since the avoidance of distortion is important the theory of distortion is explored Formulas are developed to give a quantitative estimate of linear area and angular distortions Extended examples are given for several mapping problems of interest Computer applications and efficient algorithms are presented This book is an appropriate text for a course in the mathematical aspects of mapping and cartography Map projections are of interest to workers in many fields Some of these are mathematicians engineers surveyors geodists geographers astronomers and military intelligence analysts and strategists McGraw-Hill Personal Computer Programming Encyclopedia William J. Birnes, 1989 Computer Books and Serials in Print , 1985 PC Mag , 1989-05-16 PCMag com is a leading authority on technology delivering Labs based independent reviews of the latest products and services Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology **Subject Guide to Books in Print** , 1984 **PC Mag** , 1984-05-15

PCMag.com is a leading authority on technology delivering Labs based independent reviews of the latest products and services. Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology.

The Publishers' Trade List Annual, 1988 Advanced MS-DOS Batch File Programming Dan Gookin, 1991
Updated to cover DOS 5 this book includes enhanced coverage of batch file commands material on several new code compilers and an expanded cookbook reference section. Provides lots of sample programs complete with line by line explanations all of which are available on disk.

Computer Book Review, 1987 *Map Projections Theory and Applications II*
Pearson, 2018-04-27 About the Author Frederick Pearson has extensive experience in teaching map projection at the Air Force Cartography School and Virginia Polytechnic Institute. He developed star charts satellite trajectory programs and a celestial navigation device for the Aeronautical Chart and Information Center. He is an expert in orbital analysis of satellites and control and guidance systems. At McDonnell Douglas he worked on the guidance system for the space shuttle. This text develops the plotting equations for the major map projections. The emphasis is on obtaining usable algorithms for computer aided plotting and CRT display. The problem of map projection is stated and the basic terminology is introduced. The required fundamental mathematics is reviewed and transformation theory is developed. Theories from differential geometry are particularized for the transformation from a sphere or spheroid as the model of the earth onto a selected plotting surface. The most current parameters to describe the figure of the earth are given. Formulas are included to calculate meridian length parallel length geodetic and geocentric latitude azimuth and distances on the sphere or spheroid. Equal area conformal and conventional projection transformations are derived. All result in direct transformation from geographic to cartesian coordinates. For selected projections inverse transformations from cartesian to geographic coordinates are given. Since the avoidance of distortion is important the theory of distortion is explored. Formulas are developed to give a quantitative estimate of linear area and angular distortions. Extended examples are given for several mapping problems of interest. Computer applications and efficient algorithms are presented. This book is an appropriate text for a course in the mathematical aspects of mapping and cartography. Map projections are of interest to workers in many fields. Some of these are mathematicians engineers surveyors geodesists.

Desktop Publishing on the Mac Kevin Rardin, 1986

Ignite the flame of optimism with Get Inspired by is motivational masterpiece, Fuel Your Spirit with **Basic Primer For The Ibm Pc And Xt** . In a downloadable PDF format (*), this ebook is a beacon of encouragement. Download now and let the words propel you towards a brighter, more motivated tomorrow.

<https://abp-london.co.uk/About/uploaded-files/HomePages/crc%20handbook%20of%20oligosaccharides%20trisaccharides.pdf>

Table of Contents Basic Primer For The Ibm Pc And Xt

1. Understanding the eBook Basic Primer For The Ibm Pc And Xt
 - The Rise of Digital Reading Basic Primer For The Ibm Pc And Xt
 - Advantages of eBooks Over Traditional Books
2. Identifying Basic Primer For The Ibm Pc And Xt
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Basic Primer For The Ibm Pc And Xt
 - User-Friendly Interface
4. Exploring eBook Recommendations from Basic Primer For The Ibm Pc And Xt
 - Personalized Recommendations
 - Basic Primer For The Ibm Pc And Xt User Reviews and Ratings
 - Basic Primer For The Ibm Pc And Xt and Bestseller Lists
5. Accessing Basic Primer For The Ibm Pc And Xt Free and Paid eBooks
 - Basic Primer For The Ibm Pc And Xt Public Domain eBooks
 - Basic Primer For The Ibm Pc And Xt eBook Subscription Services
 - Basic Primer For The Ibm Pc And Xt Budget-Friendly Options
6. Navigating Basic Primer For The Ibm Pc And Xt eBook Formats

- ePub, PDF, MOBI, and More
- Basic Primer For The Ibm Pc And Xt Compatibility with Devices
- Basic Primer For The Ibm Pc And Xt Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Basic Primer For The Ibm Pc And Xt
 - Highlighting and Note-Taking Basic Primer For The Ibm Pc And Xt
 - Interactive Elements Basic Primer For The Ibm Pc And Xt
- 8. Staying Engaged with Basic Primer For The Ibm Pc And Xt
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Basic Primer For The Ibm Pc And Xt
- 9. Balancing eBooks and Physical Books Basic Primer For The Ibm Pc And Xt
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Basic Primer For The Ibm Pc And Xt
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Basic Primer For The Ibm Pc And Xt
 - Setting Reading Goals Basic Primer For The Ibm Pc And Xt
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Basic Primer For The Ibm Pc And Xt
 - Fact-Checking eBook Content of Basic Primer For The Ibm Pc And Xt
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Basic Primer For The Ibm Pc And Xt Introduction

In the digital age, access to information has become easier than ever before. The ability to download Basic Primer For The Ibm Pc And Xt has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Basic Primer For The Ibm Pc And Xt has opened up a world of possibilities. Downloading Basic Primer For The Ibm Pc And Xt provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Basic Primer For The Ibm Pc And Xt has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Basic Primer For The Ibm Pc And Xt. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Basic Primer For The Ibm Pc And Xt. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Basic Primer For The Ibm Pc And Xt, users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Basic Primer For The Ibm Pc And Xt has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

FAQs About Basic Primer For The Ibm Pc And Xt Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Basic Primer For The Ibm Pc And Xt is one of the best book in our library for free trial. We provide copy of Basic Primer For The Ibm Pc And Xt in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Basic Primer For The Ibm Pc And Xt. Where to download Basic Primer For The Ibm Pc And Xt online for free? Are you looking for Basic Primer For The Ibm Pc And Xt PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Basic Primer For The Ibm Pc And Xt. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Basic Primer For The Ibm Pc And Xt are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Basic Primer For The Ibm Pc And Xt. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Basic Primer For The Ibm Pc And Xt To get started finding Basic Primer For The Ibm Pc And Xt, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Basic Primer

For The Ibm Pc And Xt So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Basic Primer For The Ibm Pc And Xt. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Basic Primer For The Ibm Pc And Xt, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Basic Primer For The Ibm Pc And Xt is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Basic Primer For The Ibm Pc And Xt is universally compatible with any devices to read.

Find Basic Primer For The Ibm Pc And Xt :

~~ere handbook of oligosaccharides trisaccharides~~

crafting with flea market fabrics

creation versus chaos the reinterpretation of mythical symbolism in the bible

crafting the third world theorizing underdevelopment in rumania and brazil pb

crafting the perfect wedding from saying yes to the big day and beyond

creating with found objects

craft an elegant wedding

creating the palestinian state

creative bible learning

~~creating the british galleries at the v and a a study in museology~~

creative crepe cooking

crash course on jazz guitar voicings

crashs law poems

crapou doudou

creation of the gods volume ii

Basic Primer For The Ibm Pc And Xt :

illness as many narratives arts medicine and cult copy - Dec 27 2021

web less latency times to download any of our books once this one merely said the illness as many narratives arts medicine

and cult is universally compatible taking into consideration any devices to read the illness narratives arthur kleinman 2020 10 13 from one of america s most celebrated psychiatrists

[illness as many narratives arts medicine and culture google](#) - Apr 11 2023

web feb 2 2016 what do they reveal about experiences of illness the relationship between the body and identity and the role of the arts in bearing witness to illness for people who are ill and those

illness as many narratives arts medicine and culture alibris - Mar 30 2022

web buy illness as many narratives arts medicine and culture by stella bolaki online at alibris we have new and used copies available in 1 editions starting at 34 17 shop now

illness as many narratives arts medicine and culture - Jul 02 2022

web buy illness as many narratives arts medicine and culture reprint by stella bolaki isbn 9781474425582 from amazon s book store everyday low prices and free delivery on eligible orders

[artists books in the medical community illness as many narratives](#) - Apr 30 2022

web this chapter focuses on a medium that is rarely discussed in relation to the medical humanities by examining the artists books of american artist and we use cookies to enhance your experience on our website by continuing to use our website you are agreeing to our use of cookies

illness as many narratives arts medicine and culture oxford - May 12 2023

web mar 1 2016 abstract illness narratives have become a cultural phenomenon in the western world but their analysis continues to be framed by the context of biomedicine the doctor patient encounter and the demands of medical training

illness as many narratives arts medicine and culture - Nov 06 2022

web feb 2 2016 download citation illness as many narratives arts medicine and culture illness narratives have become a cultural phenomenon in the western world but their analysis continues to

illness as many narratives arts medicine and culture google - Dec 07 2022

web illness as many narratives arts medicine and culture ebook written by stella bolaki read this book using google play books app on your pc android ios devices download for offline reading highlight bookmark or take notes while you read illness as many narratives arts medicine and culture

illness as many narratives arts medicine and culture google - Oct 05 2022

web feb 2 2016 approved explores the aesthetic ethical and cultural importance of contemporary representations of illness across different arts and media illness narratives have become a cultural

[investigating illness narratives literature and medicine](#) - Feb 26 2022

web illness narratives expressions about or around experiences of illness learn delve into the diverse genre of illness

narratives and its multimedia forms research explore prevalent findings and follow a journey to generate new ones teach share illness narrative insight through open educational resources write discover narrative medicine

[illness as many narratives arts medicine and culture](#) - Jun 01 2022

web key features opens up the category of illness narrative to consider a wide variety of media artistic forms beyond literature intervenes in current debates in medical humanities medical education by emphasising more critical as opposed to instrumental approaches explores different physical and mental illness experiences in both

[illness as many narratives arts medicine and cult pdf uniport edu](#) - Jan 28 2022

web jul 3 2023 [illness as many narratives arts medicine and cult 2 12](#) downloaded from uniport edu ng on july 3 2023 by guest the self in health and illness frances rapport 2006 patients views of their identity change with illness as do health professionals views of them this anthology discusses how and why this happens and examines the

[project muse illness as many narratives arts medicine and](#) - Jan 08 2023

web stella bolacki s [illness as many narratives arts medicine and culture](#) is a critical interloping 13 into the field of medical humanities which developed in the last few decades of the twentieth century as medical professionals began to incorporate perspectives from the humanities and social sciences into the practice of medicine in an

book review illness as many narratives arts medicine and culture - Aug 03 2022

web [illness as many narratives arts medicine and ulture by stella olaki](#) edinburgh university press 2016 there could be no stronger sign of the coming of age of the critical medical humanities than stella bolaki s [illness as many narratives](#) a piece of artistry as deft intricate and

[illness as many narratives arts medicine and culture](#) - Mar 10 2023

web aug 1 2017 how can they influence medicine the arts and shape public understandings of health and illness these questions and more are explored in [illness as many narratives](#) which contains readings of a rich array of representations of illness from the 1980s to the present

illness as many narratives arts medicine and culture - Sep 04 2022

web mar 1 2016 [illness as many narratives arts medicine and culture](#) authors stella bolaki abstract the introduction provides an overview of illness narratives and illness narrative scholarship

illness as many narratives arts medicine and culture on jstor - Aug 15 2023

web this book starts from the premise that illness narratives are characterised by multiplicity among the texts and artworks i encountered in my research few have driven this idea home in all its different senses to me more than my father s own cancer narrative

illness as many narratives cambridge university press - Jun 13 2023

web illness as many narratives arts medicine and culture search within full text get access check if you have access via personal or institutional login log in provides an understanding of the complex contribution illness narratives make to contemporary culture and the emergent field of critical medical humanities aa reduce text aa

[illness as many narratives illness as many narratives arts medicine](#) - Feb 09 2023

web abstract the introduction provides an overview of illness narratives and illness narrative scholarship focusing on the contested territory of narrative illne

illness as many narratives arts medicine and culture on jstor - Jul 14 2023

web explores the aesthetic ethical and cultural importance of contemporary representations of illness across different arts and media illness narratives have beco

enter camilla a modern and complex queen npr - Jan 27 2023

web may 3 2023 officially known as the queen consort camilla parker bowles is the wife of king charles iii the pair will have their coronation later this week camilla was famously charles mistress while

king charles wife to get official title of queen camilla los - Mar 29 2023

web apr 5 2023 buckingham palace by danica kirka associated press april 5 2023 3 58 am pt london king charles iii s wife has been officially identified as queen camilla for the first time with

camilla becomes queen consort capping years of image - Dec 26 2022

web sep 9 2022 upon queen elizabeth s death there was no question that as her son became king charles iii camilla would become queen consort elizabeth put the issue of camilla s role to rest earlier this

camilla the new queen consort bbc news - Aug 02 2023

web apr 27 2023 royal correspondent she is the love of charles s life his confidante since they were young and his wife of 17 years and now she is his queen consort the public has got used to seeing

queen camilla and the triumph of image transformation the new york times - Apr 29 2023

web may 5 2023 camilla the wife of king charles iii will be crowned as queen on saturday chris jackson getty images by megan specia published may 5 2023 updated may 6 2023 the coronation will mark the

camilla the making of the future queen consort bbc news - Feb 25 2023

web feb 6 2022 the queen has announced she would like camilla the duchess of cornwall to have the title of queen consort when the prince of wales becomes king it is an endorsement from the very top say

queen camilla wikipedia - Oct 04 2023

web camilla born camilla rosemary shand later camilla parker bowles 17 july 1947 is queen of the united kingdom and the 14 other commonwealth realms as the wife of king charles iii note 1 camilla was raised in east sussex and south kensington in

england and educated in england switzerland and france

queen backs camilla to be queen consort on jubilee bbc news - May 31 2023

web feb 6 2022 the queen has said she wants camilla the duchess of cornwall to be known as queen consort when prince charles becomes king in a message marking the 70th anniversary of her reign the queen said

camilla who is britain s new queen cnn - Sep 03 2023

web may 1 2023 london cnn with her husband s accession to the throne camilla has become britain s new queen taking on a new and more prominent role alongside king charles iii she was ever present at

unseen camilla the five ages of a future queen the guardian - Jul 01 2023

web apr 13 2023 unseen camilla the five ages of a future queen from mistress to monarchy she has been in the public eye for decades yet precious little is known about king charles longstanding paramour

easter sunday timeanddate com - Jan 17 2023

web easter sunday falls on a sunday which is a non working day in countries such as australia canada the united kingdom and the united states government offices and schools are closed in countries where sunday is a non working day and business activities are limited in countries where sunday is a non working day transport schedules may be

sunday definition meaning merriam webster - Mar 19 2023

web the meaning of sunday is the first day of the week the christian analogue of the jewish sabbath how to use sunday in a sentence

sunday wikipedia - Aug 24 2023

web sunday is the day of the week between saturday and monday sunday is a day of rest in most western countries and a part of the weekend in some eastern countries such as israel sunday is a weekday

sunday english meaning cambridge dictionary - Apr 20 2023

web a1 the day of the week after saturday and before monday when most people in western countries do not go to work we re going to visit my aunt and uncle on sunday they go

the sunday times vikpedi - Dec 16 2022

web the sunday times birleşik krallık ta yayımlanan bir pazar gazetesi kaynakça dış bağlantılar resmî site avrupa gazetesi veya avrupa da gazetecilik ile ilgili bu madde taslak seviyesindedir madde içeriğini genişleterek vikpedi ye katkı

tureng sunday türkçe İngilizce sözlük - Sep 25 2023

web kelime ve terimleri çevir ve farklı aksanlarda sesli dinleme sunday pazar palm sunday paskalyadan önceki pazar günü ne demek türkçe İngilizce almanca İngilizce

sunday ne demek sunday türkçesi ne demek ingilizce sunday - May 21 2023

web sunday synonyms dominicus billy sunday lord s day william ashley sunday on sunday marting bazars gala dress outlet
mart first day festive market bazaar marketplace debouche bazaars dominical day bazar sun sunday zıt anlamlı kelimeler
sunday kelime anlamı workday Çalışma günü İşgünü adi gün hafta içi

sunday seventh day of the week timeanddate com - Jun 22 2023

web sunday is the seventh day of the week according to the international standard iso 8601 however many countries
including the us canada and japan count sunday as the first day of the week sunday is named after the sun sunday comes
after saturday and before monday in our modern day gregorian calendar

7 days of the week vocabulary englishclub - Jul 23 2023

web saturday sunday here are the abbreviations mo mon tu tue tues we wed th thu thur thurs fr fri sa sat su sun the most
common abbreviations are the ones with 3 letters find out more about days of the week and months of the year contributor
josef essberger

what is the first day of the week timeanddate com - Feb 18 2023

web roughly 55 of the world s population start their week on a sunday 44 on a monday timeanddate com evenly split whether
the gregorian calendar shows sunday or monday as the first day of the week depends on where you live most countries start
the week on monday but most people start on sunday 67 countries and over 4 billion