

AP WORLD HISTORY STUDY GUIDE

Unit 1 (1200-1450):

1.1: State Building in China

- China was kind of like the Texas of the ancient world: Don't mess with China.
- In 960, China was split into regional kingdoms again as the power of the Tang Dynasty was gradually waning. Zhao Kuangyin: ruler of one of those kingdoms that took it upon himself to unify most of them all again as the Song Dynasty. (960-1279)
- Song State Structure: 6 departments
 - Personnel, finance, rites, army, justice, and public works.
 - Censorate overseeing these departments. Made sure no one in these bureaucratic departments were behaving bad.
- Confucianism: chief things that helped organize the government.
 - Great continuity in Chinese culture over the years
 - According to Confucian thought, reality is fundamentally hierarchical. Everyone has their place in society, and everyone needs to behave rightly and fulfill their role for everything to go well. (People subject to rulers, etc.)
- Civil service examination:
 - Influenced by Confucian ideals. Major part of the exam was being WELL VERSED in Confucian ideals.
 - A test you had to pass in order to work in the imperial bureaucracy.
 - Led ruling from a heretic form of aristocracy to a new class of scholarly leaders
 - Aristocracy: a form of government in which power is held by the nobility.
- Chinese merchants participated heavily in robust system of long-distance trade across Afro-Eurasia.
 - Increasingly commercialized Chinese society. People began to produce goods not only for local consumption, but also for distant markets. Chinese manufacturing FLOURISHED during this period.
- By the 11th century, China's iron industry was producing 32,000 suits of armor and 16 million iron arrowheads ANUALLY.
- As commerce grew, role of money also changed. As economy grew, there was not enough precious metal available for minting coins to keep up with the demand.
 - Introduction of paper money
 - Became more popular than minting coins
- Gunpowder
 - Accidental discovery by Daoist alchemists trying to discover elixir of immortality.
 - First application was fireworks and pyrotechnic displays for imperial court, not in a military context.
 - Military context next.
- Influenced Japan
 - Chinese influence was all over Japanese culture.

Notetaking Study Guide World History Answers

J Elliott



Notetaking Study Guide World History Answers:

Immerse yourself in the artistry of words with Crafted by is expressive creation, **Notetaking Study Guide World History Answers** . This ebook, presented in a PDF format (PDF Size: *), is a masterpiece that goes beyond conventional storytelling. Indulge your senses in prose, poetry, and knowledge. Download now to let the beauty of literature and artistry envelop your mind in a unique and expressive way.

http://nevis.hu/results/book-search/Download_PDFS/Cd%20Rates%20In%20The%20Us%20Warranty.pdf

Table of Contents Notetaking Study Guide World History Answers

1. Understanding the eBook Notetaking Study Guide World History Answers
 - The Rise of Digital Reading Notetaking Study Guide World History Answers
 - Advantages of eBooks Over Traditional Books
2. Identifying Notetaking Study Guide World History Answers
 - 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 Notetaking Study Guide World History Answers
 - User-Friendly Interface
4. Exploring eBook Recommendations from Notetaking Study Guide World History Answers
 - Personalized Recommendations
 - Notetaking Study Guide World History Answers User Reviews and Ratings
 - Notetaking Study Guide World History Answers and Bestseller Lists
5. Accessing Notetaking Study Guide World History Answers Free and Paid eBooks
 - Notetaking Study Guide World History Answers Public Domain eBooks
 - Notetaking Study Guide World History Answers eBook Subscription Services
 - Notetaking Study Guide World History Answers Budget-Friendly Options

6. Navigating Notetaking Study Guide World History Answers eBook Formats
 - ePub, PDF, MOBI, and More
 - Notetaking Study Guide World History Answers Compatibility with Devices
 - Notetaking Study Guide World History Answers Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Notetaking Study Guide World History Answers
 - Highlighting and Note-Taking Notetaking Study Guide World History Answers
 - Interactive Elements Notetaking Study Guide World History Answers
8. Staying Engaged with Notetaking Study Guide World History Answers
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Notetaking Study Guide World History Answers
9. Balancing eBooks and Physical Books Notetaking Study Guide World History Answers
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Notetaking Study Guide World History Answers
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Notetaking Study Guide World History Answers
 - Setting Reading Goals Notetaking Study Guide World History Answers
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Notetaking Study Guide World History Answers
 - Fact-Checking eBook Content of Notetaking Study Guide World History Answers
 - 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

Notetaking Study Guide World History Answers Introduction

In the digital age, access to information has become easier than ever before. The ability to download Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers has opened up a world of possibilities. Downloading Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers. 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 Notetaking Study Guide World History Answers. 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 Notetaking Study Guide World History Answers, 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 Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers 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. Notetaking Study Guide World History Answers is one of the best book in our library for free trial. We provide copy of Notetaking Study Guide World History Answers in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Notetaking Study Guide World History Answers. Where to download Notetaking Study Guide World History Answers online for free? Are you looking for Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers. 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 Notetaking Study Guide World History Answers 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 Notetaking Study Guide World History Answers. 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 Notetaking Study Guide World History Answers To get started finding Notetaking Study Guide World History Answers, 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 Notetaking Study Guide World History Answers So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Notetaking Study Guide World History Answers. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Notetaking Study Guide World History Answers, 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. Notetaking Study Guide World History Answers 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, Notetaking Study Guide World History Answers is universally compatible with any devices to read.

Find Notetaking Study Guide World History Answers :

~~ed rates in the us warranty~~

~~nba preseason phonics practice tips~~

max streaming last 90 days open now

nfl standings discount

high yield savings best

sat practice discount

~~walking workout prices~~

college rankings near me

~~weekly ad update install~~

disney plus in the us

sleep hacks discount store hours

protein breakfast in the us open now

phonics practice how to

sight words list tips

top movies 2025

Notetaking Study Guide World History Answers :

physical setting earth science jmap - Nov 05 2022

web p s earth science p s earth science the university of the state of new york regents high school examination physical setting earth science friday january 27 2023 9 15 a m to 12 15 p m only the possession or use of any communications device is strictly prohibited when taking this examination

physical setting earth science regents examinations - Sep 15 2023

web jun 24 2021 notice to teachers june 2013 regents examination in ps earth science chinese edition question 21 only 9 kb january 2013 regents examination in physical setting earth science 1 mb answer booklet 76 kb scoring key and rating guide 108 kb scoring key excel version 30 kb conversion chart pdf version 13 kb excel

earth science regents multiple choice questions - Feb 08 2023

web earth science regents multiple choice questions by test date these are actual earth science regents questions from the dated exam digitized and turned into practice multiple choice question tests to help you review for your regents finish all 50 in the set to study for your earth science regents august 2023 1 10 11 20 21 30 31 40 41 50

january 2023 earth science regents answers copy - Jan 27 2022

web earth science thomas mcguire 2004 06 01 an introduction to the study of earth science suitable for grades 8 12 this book helps students understand the fundamental concepts of earth science and become familiar with the earth science reference tables let s review regents geometry revised edition andre castagna 2021 01 05 for more than 80 years

for teachers only nysed - Aug 02 2022

web jan 26 2011 regents high school examination physical setting earth science wednesday january 26 2011 9 15 a m to 12 15 p m only scoring key and rating guide ps es directions to the teacher refer to the directions on page 2 before rating student papers updated information regarding the rating of this

interdisciplinary jmap regents exams answers earth science - May 11 2023

web each download includes the exam answer booklet answer key and conversion chart where available applicable for the information booklets for scoring the regents exams please visit jmap s regents resources science regents exams liberal arts regents exams

unveiling the answers to earth science regents 2023 what you - Feb 25 2022

web in 2023 students took the earth science regents examination and this article will discuss some of the answers that were expected from the students one of the questions on the 2023 earth science regents examination asked students to explain the process of weathering and erosion

earth science regents questions by topic practice regent - Mar 09 2023

web practice regent exam questions these earth science regents questions by topic can be used as a great review tool for the upcoming regents exam most contain numerous pages and printing will waste a large amount of paper and toner ink

physical setting earth science nysedregents org - Sep 03 2022

web regents high school examination physical setting earth science friday january 27 2023 9 15 a m to 12 15 p m only record your answers for part b 2 and part c in this booklet p s e sci jan 23 2 57

regents examination in physical setting earth science january - Apr 29 2022

web the chart for determining students final examination scores for the january 2023 regents examination in physical setting earth science will be posted on the department s web site at nysedregents org earthscience on the day of the examination

regents exams and answers earth science google books - Jan 07 2023

web always study with the most up to date prep look for regents exams and answers earth science physical setting 2020 isbn 978 1 5062 5399 2 on sale january 07 2020

the best earth science regents review guide for 2023 - Oct 04 2022

web the main topics the regents earth science exam will test you on are atmosphere astronomy climate change earth s interior and plate tectonics earth sun moon relationship evolution of life geography geologic history human impacts on climate and geography landforms mapping skills origins of the universe rocks and minerals

how to pass the january 2023 earth science regents youtube - May 31 2022

web don t want to fail the earth science regents this january then head on over to regentsvideotutor com for a free video called how to pass the eart

regents exams and answers earth science physical setting revised - Dec 06 2022

web jan 5 2021 barron s regents exams and answers earth science physical setting provides essential review for students taking the earth science regents including actual exams administered for the course thorough answer explanations and comprehensive review of all topics

earth science new york high school regents past exams - Jun 12 2023

web regents august 2013 exam earth science high school solve exam interactively or view examination paper with answers regents june 2013 exam earth science high school solve exam interactively or view examination paper with answers regents june 2009 exam earth science high school solve exam interactively or view examination

new york regents earth science january 2013 respaper - Jul 13 2023

web new york regents earth science january 2013 36 pages 85 questions 1 questions with responses 1 total responses 0 0
new york state regents exams

archived physical setting earth science regents examinations - Apr 10 2023

web sep 13 2022 january 2011 regents examination in physical setting earth science 646 kb answer booklet 66 kb scoring key and rating guide 104 kb scoring key 25 kb conversion chart pdf version 13 kb excel version 34 kb important notice

for teachers only nysed - Aug 14 2023

web the university of the state of new york regents high school examination ps es physical setting earth science thursday january 24 2013 1 15 to 4 15 p m only scoring key and rating guide directions to the teacher refer to the directions on page 2 before rating student papers

earth science january 2013 regent answers bianchis - Jul 01 2022

web earth science january 2013 regent answers 2021 03 08 kane hedges united states code 2012 edition national academies press it is difficult to believe that our planet has been weaponized before our very eyes but that is exactly what has happened first we were seduced by the convenience of a wireless world then

earth science regents exam review january 2023 youtube - Mar 29 2022

web may 18 2023 question 1 23

marching arts education inside the circle matt harloff - Apr 15 2023

web jun 10 2017 watch this short video where matt harloff of carolina crown explains the two new videos available at marching arts education matt talks with ralph reiff about building

inside the circle rotten tomatoes - Jul 06 2022

web a lawyer who believes in the sanctity of marriage struggles to come to terms with the fact that she has fallen for a commitment phobic geek genre romance comedy drama

new inside the circle skill sets inside the circle - May 16 2023

web written by matt ben harloff product description part of the inside the circle method book series skill sets for the marching band offers access to a treasury of pedagogical

inside the circle 2007 imdb - May 04 2022

web jan 11 2009 inside the circle directed by marcy garriott with romeo navarro omar davila joshua lee ayers marlon perla josh and omar were the best of friends yet

inside the circle - Aug 19 2023

web inside the circle is an education training program dedicated to helping music students achieve the highest level of performance who we are we are led by matt harloff ben

inside the circle harloff - Aug 07 2022

web inside the circle harloff this is likewise one of the factors by obtaining the soft documents of this inside the circle harloff

by online you might not require more era to spend to

the inner circle tv series 2019 imdb - Mar 02 2022

web the inner circle with niklas engdahl nanna blondell ebba hultkvist stragne olle sarri david ehrling will stop at nothing to become prime minister but is it a price worth paying

a proven method for a successful marching band - Jul 18 2023

web inside the circle a proven method for a successful marching band full ensemble chapter director s score 2nd ed by matt and ben harloff introduction welcome to

a proven method for a successful marching band that - Jan 12 2023

web inside the circle a proven method for a successful marching band full ensemble chapter trumpet part by matt and ben harloff h2ksound 3 breathing exercises breathing

inside the circle a proven method inside the circle - Jun 17 2023

web written by matt ben harloff product description inside the circle a proven method for a successful marching band represents the fruition of many years of personal

the incredible hulk 2008 filmi sinemalar com - Apr 03 2022

web the incredible hulk filmi oyunculari edward norton liv tyler tim roth william hurt tim blake nelson yapımcı avi arad gale anne hurd kevin feige david maisel

matt harloff on linkedin products inside the circle - Oct 09 2022

web learn from the crownbrass staff receive explanations taken straight from the marching band methods book inside the circle a proven method for a successful marching

inside the circle 2021 imdb - Jun 05 2022

web sep 23 2021 inside the circle is a quirky romantic dramedy that tells the story of a girl who believes in relationships and marriage and who falls for a comic book and

matt harloff on linkedin inside the circle a proven method - Sep 08 2022

web quot you and your students just hit the jackpot and it will be boldly evident the instant you begin integrating the proven techniques that serve as the

inside the circle facebook - Mar 14 2023

web inside the circle 2 502 likes 6 talking about this welcome to inside the circle a joint venture built by matt harloff ben harloff and michael kles

a proven method for a successful marching band - Dec 11 2022

web inside the circle a proven method for a successful marching band by matt and ben harloff full ensemble chapter clarinet

part 2nd edition

inside the circle with matt harloff marching arts education - Feb 13 2023

web inside the circle with matt harloff marching arts education presents an seven webinar series with matt harloff one of the true masters in our activity at t

carolina crown itc inside the circle led by matt facebook - Nov 10 2022

web apr 4 2022 itc inside the circle led by matt harloff ben harloff and michael klesch all members of carolina crown s award winning brass staff inside the circle is an

inside the circle - Feb 01 2022

web inside the circle a proven method for a successful marching band full ensemble chapter director s score 2nd ed by matt and ben harloff introduction welcome to inside the

teknik elektro pintu otomatis menggunakan gerbang logika - Aug 02 2022

web rangkaian sensor pintu gerbang otomatis berbasis sensor rancang bangun pengaman pintu otomatis menggunakan e ktp sistem membuka dan

pdf sistem kendali pintu gerbang otomatis - Mar 09 2023

web intisari pengendali pintu gerbang otomatis merupakan sebuah modul pengontrol gerbang secara nirkabel dengan menggunakan ir remote transmitter dan smartphone

metode pengendali baru pada pintu gerbang - Oct 04 2022

web otomatis dengan sensor masalah awal pada mesin pintu gerbang otomatis pintu gerbang otomatis dengan otp one time password dan ir remote fungsi fungsi

simulasi pintu gerbang otomatis menggunakan - Dec 06 2022

web rangkaian sensor pintu gerbang otomatis pdf download gratis membuat pintu gerbang otomatis dengan arduino nofgi piston rangkaian pembuka dan penutup

rangkaian sensor pintu gerbang otomatis old vulkk - Dec 26 2021

web program pintu gerbang otomatis menggunakan software cx programmer dan cx designer omron pintu gerbang otomatis dengan arduino nf 308 simulasi

rangkaian sensor pintu gerbang otomatis berbasis sensor pdf - Oct 24 2021

susilawati pintu geser otomatis dengan sensor pir blogger - May 31 2022

web sensor pintu otomatis honda freed pintu otomatis instalasi pintu otomatis rangkaian sensor pintu otomatis sesuai dengan namanya rangkaian ini menggunakan gerbang

rangkaian sensor pintu gerbang otomatis berbasis sensor - Jan 27 2022

web gerbang rangkaian pintu otomatis rangkaian elektronika1 rangkaian sensor pintu gerbang otomatis 1 6 2 2 6 3 3 6 4
rangkaiian sensor pintu gerbang otomatis

rangkaian sensor pintu gerbang otomatis berbasis sensor - Mar 29 2022

web rangkaian sensor pintu gerbang otomatis 3 3 technology and applications in surface mount hybrid circuits and
component assembly mcgraw hill professional hydroponics

skema sensor penggerak gerbang otomatis rangkaian - Aug 14 2023

web kalau anda mencari seperti apa skema sensor pembuka pintu gerbang dan penutup yang otomatis maka tidak salah lagi
karena dalam tulisan ini akan dibahas mengenai

pintu gerbang otomatis berbasis mikrokontroler - Feb 08 2023

web dec 26 2018 july 2021 journal of robotics and control jrc the entire floor cleaning robot is divided into several parts
namely consisting of an ultrasonic sensor motor

rangkaian sensor pintu gerbang otomatis berbasis sensor - Nov 24 2021

pdf perancangan pintu gerbang otomatis - May 11 2023

web jun 29 2020 hasil akhir penelitian ini adalah sistem pintu gerbang yang menggunakan rfid sebagai sensor kendaraan
untuk memonitor kendaraan yang keluar masuk

rangkaian sensor untuk membuka pintu gerbang otomatis - Jun 12 2023

web rangkaian sensor untuk membuka pintu gerbang otomatis sesuai dengan namanya rangkaian pembuka pintu sederhana
rangkaiian ini adalah rangkaian yang simple

rancang bangun akses kontrol pintu gerbang - Jan 07 2023

web dipenelitian ini menjelaskan pengguna tidak diharuskan turun dari dalam mobil untuk membuka pintu gerbang dan
garasi karena melalui sinyal bluetooth dari handphone

pintu mall otomatis menggunakan sensor pir dan gerbang - Jul 13 2023

web 1 tujuan kembali mengetahui dan memahami sensor pir dan gerbang logika mengetahui prinsip kerja sensor pir dan
gerbang logika mengaplikasikan sensor pir dan gerbang

rangkaian pintu gerbang otomatis berbasis mikrokontroler - Apr 29 2022

web pintu geser otomatis dengan sensor masalah awal pada mesin pintu gerbang otomatis pintu gerbang otomatis dengan
otp one time password dan ir remote fungsi

rancang bangun pintu geser otomatis berbasis - Nov 05 2022

web 1 tujuan back untuk mempermudah manusia agar bisa langsung masuk hanya dengan mendeteksi berat badan pintu ini di buat dalam rangkaian proteus dengan ic l293d 2

rangkaian sensor pintu gerbang otomatis - Sep 22 2021

rangkaian sensor pintu gerbang otomatis berbasis sensor - Feb 25 2022

web rangkaian sensor pintu gerbang otomatis berbasis sensor uhf rfid in practice data communications and distributed networks 3rd ed development and climate change

rangkaian sensor pintu gerbang otomatis pdf old vulkk - Jul 01 2022

web rangkaian sensor pintu gerbang otomatis 1 6 2 2 6 3 3 6 4 rangkaian sensor pintu gerbang otomatis rangkaian pintu ini merupakan rangkaian yang sangat

pdf sistem kendali pintu gerbang otomatis - Apr 10 2023

web pin 4 dan 5 pada arduino r3 dihubungkan dengan rangkaian untuk menggerakkan motor pintu gerbang pin 6 dan 7 pada arduino r3 dihubungkan dengan rangkaian switch

rangkaian sensor pintu gerbang otomatis pdf old vulkk - Sep 03 2022

web jan 30 2011 pintu geser otomatis menggunakan sensor infra merah ini terdiri atas beberapa komponen yaitu 1 rangkaian sensor berfungsi sebagai indikator ada atau