Discovering Computers Essentials 2016 1st edition Vermaat Solutions Manual

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DISCOVERING COMPUTERS: TOOLS, APPS, DEVICES, AND THE IMPACT OF TECHNOLOGY

CHAPTER TWO: THE INTERNET

END OF CHAPTER SOLUTIONS

STUDY GUIDE

Answers to Study Guide questions are below.

1. The Pentagon's Advanced Research Projects Agency (ARPA), is an agency of the U.S. Department of Defense. ARPA's goal was to build a network that (1) allowed scientists at different physical locations to share information and work together on military and scientific projects and (2) could function even if part of the network were disabled or destroyed by a disaster such as a nuclear attack. That network, called ARPANET, became functional in September 1969, linking scientific and academic researchers across the United States. By 1984, ARPANET had more than 1,000 individual computers linked as hosts. Today, millions of hosts connect to this network, which now is known as the Internet.
2. A host, more commonly known today as a server, is any computer that provides services and connections to other computers on a network.
3. The World Wide Web Consortium (W3C) oversees research and sets standards and guidelines for many areas of the Internet. The mission of the W3C is to ensure the continued growth of the web.
4. A dongle is a small device that connects to a computer. Broadband Internet service is known for its fast data transfer speeds and its always-on connection. Popular wired broadband Internet services include: cable Internet service, DSL, and FTTP. Wireless options include: Wi-Fi, mobile broadband, fixed wireless, and satellite Internet service.
5. A hot spot is a wireless network that provides Internet connections to mobile computers and devices. Follow these guidelines when using a hot spot: avoid typing passwords and financial information; sign out of websites when finished using an account; disable your wireless

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connection when not needed; do not leave your computer or mobile device unattended; and beware of over-the-shoulder snoopers.

6. ISP stands for Internet service provider.

7. Computers and devices connected to the Internet work together to transfer data around the world using servers and clients and various wired and wireless transmission media. On the Internet, your computer or device is a client that can access data and services on a variety of servers. Several main transmission media carry the heaviest amount of traffic, or communications activity, on the Internet. These major carriers of network traffic are known collectively as the Internet backbone.

8. An IP address is a sequence of numbers that uniquely identifies the location of each computer or device connected to the Internet. Due to the growth of the Internet, the original IPv4 addresses began dwindling in availability. The IPv6 scheme increased the available number of IP addresses exponentially.

9. A domain name is a text-based name that corresponds to the IP address of a server that hosts a website. To register for a domain name: run a browser; use a search engine to locate a domain name registrar and then navigate to the website; perform a search on the domain name registrar's website for the domain name you wish to register; follow the steps on the domain name registrar's website to select and complete the purchase and registration of the desired domain name.

10. Some generic TLDs and their purposes include: .com (commercial organizations, businesses, and companies); .edu (educational institutions); .gov (government agencies); .mil (military organizations); .net (network providers or commercial companies); and .org (nonprofit organizations. The organization that approves and controls TLDs is called ICANN, which stands for Internet Corporation for Assigned Names and Numbers.

11. Cybersquatters purchase unused or lapsed domain names so that they can profit from selling them. Cybersquatters sometimes will sell you the domain name, but some take advantage of people trying to reach a more popular website to promote their own business or needs. Cybersquatters look for out-of-date registrations and buy them so that the original website owner must buy them back. Cybersquatters often purchase domain names with common words, alternate spellings of trademarked terms, or celebrity names.

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12. When you enter a domain name in a browser, a DNS server translates the domain name to its associated IP address so that the request can be routed to the correct computer.

13. Visitors to a static webpage all see the same content each time they view the webpage. With a dynamic webpage, by contrast, the content of the webpage generates each time a user displays it.

14. The web consists of a worldwide collection of electronic documents. Each electronic document on the web is called a webpage, which can contain text, graphics, animation, audio, and video. A website is a collection of related webpages and associated items, such as documents and photos, stored on a web server. A web server is a computer that delivers requested webpages to your computer or mobile device.

15. A browser is an application that enables users with an Internet connection to access and view webpages on a computer or mobile device. Current browsers typically support tabbed browsing, where the top of the browser shows a tab (similar to a file folder tab) for each webpage you display.

16. Follow these guidelines when browsing: verify the website is safe; turn off location sharing; clear your browsing history; never store passwords; use a phishing filter; enable a pop-up blocker; use private browsing; and use a proxy server.

17. Popular browsers include: Chrome, Firefox, Internet Explorer, Opera, and Safari.

18. A webpage has a unique address, called a web address or URL (Uniform Resource Locator).

19. A web address consists of a protocol (http://), domain name (nps.gov), and sometimes the host name (www.), path to a specific webpage (/history), or file name of the webpage (/places.htm).

20. A web feed contains content that has changed on a website.

21. A web app is an application stored on a web server that you access through a browser. A mobile app is an application you download from a mobile device's app store or other location on the Internet to a smartphone or other mobile device. Web apps and mobile apps often work together. Because the data and information for each app is stored on cloud storage, all data is synchronized and accessible from anywhere you have an Internet connection, regardless of the computer or device used. The functionality of the app across computers and devices generally is the same, although the mobile app sometimes has fewer features.

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22. A GPS receiver is a handheld, mountable, or embedded device that contains an antenna, a radio receiver, and a processor. Most smartphones include embedded GPS receivers so that users can determine their location, obtain directions, and locate points of interest.

23. Apps can transmit your location, as well as the time you spend using the app. Apps also can collect personal information, including gender and birth year, if you access the app through an online social network profile. Some track user data without permission, or require you to enable tracking before you can use the app. Other apps may track your location without your knowledge, such as apps that parents use to pinpoint a child's whereabouts. If you search for driving directions, coupons, or restaurant tips based on your current location or past activities, you might be using apps that openly use this type of tracking. When people use location-tracking apps, for instance, they run the risk of someone stalking or robbing them. One positive use of location-tracking apps is with emergency services. Lawmakers have struggled with whether law enforcement officials can use location-tracking without a user's knowledge.

24. A web search engine is software that finds websites, webpages, images, videos, news, maps, and other information related to a specific topic. You also can use a search engine to solve mathematical equations, define words, and more. Search engines require that you enter a word or phrase, called search text, to describe the item you want to find. To improve your searches: use specific nouns, put the most important terms first in the search text, list all possible spellings, before using a search engine, read its Help information, and if the search is unsuccessful with one search engine, try another

25. Besides webpages, a search engine can find: images, videos, maps, audio, publications, people or businesses, and blogs.

26. A search engine lists a sequence of search results. The content of the search results varies depending on the type of information you are seeking and your search text. A subject directory classifies webpages in an organized set of categories, such as sports or shopping, and related subcategories.

27. Personal uses of online social networks include sharing photos and videos, greetings, or status updates. You can like, or show appreciation for, online content such as photos or videos on online social networks. Businesses use online social networks to connect with their customers, provide promotional offers, and offer targeted advertising. Businesses also use data from online social networks to better connect with and understand customers.

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28. To use online social networks securely: during the registration process, provide only necessary information; manage your profile and check for privacy settings; choose friends carefully; limit friends; divulge only relevant information; be leery of urgent requests for help; and read the privacy policy.

29. An informational and research website contains factual information, such as libraries, encyclopedias, dictionaries, directories, and guides. A media sharing site is a website that enables members to manage and share media such as photos, videos, and music. A bookmarking site is a website that enables members to organize, tag, and share links to media and other online content. News, weather, sports, and other mass media websites contain newsworthy material. An educational website offers exciting, challenging avenues for formal and informal teaching and learning. A business website contains content that increases brand awareness, provides company background or other information, and/or promotes or sells products or services. A blog is an informal website consisting of time-stamped articles, or posts, in a diary or journal format, usually listed in reverse chronological order. A wiki is a type of collaborative website that allows users to create, add, modify, or delete the website content via a browser. Many websites provide up-to-date medical, fitness, nutrition, or exercise information for public access; some offer users the capability of listening to health-related seminars and discussions. Several websites contain information about space exploration, astronomy, physics, earth sciences, microgravity, robotics, and other branches of science; scientists use online social networks to collaborate on the web. An entertainment website offers music, videos, shows, performances, events, sports, games, and more in an interactive and engaging environment. Online banking and online trading enable users to access their financial records from anywhere in the world, as long as they have an Internet connection. Travel and tourism websites enable users to research travel options and make travel arrangements. Several mapping website and web apps exist that enable you to display up-to-date maps by searching for an address, postal code, phone number, or point of interest (such as an airport, lodging, or historical site). You can purchase just about any product or service on the web, a process that sometimes is called e-retail; with an online auction, users bid on an item being sold by someone else. Job search websites list thousands of openings in hundreds of fields, companies, and locations. E-commerce is a business transaction that occurs over an electronic network, such as the Internet. A portal is a website that offers a variety of Internet services from a single, convenient location. A content aggregation website or web app,

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sometimes called a curation website, allows users to collect and compile content from a variety of websites about a particular topic or theme. Web creation and management sites provide tools that support the steps in creating and publishing websites

30. Many argue that it is harmless to protect your anonymity by using a fake name but believe that it is not right to create a fake profile to mislead others or leave malicious comments on a website. Although some argue that creating a fake account constitutes identity theft, unless the intent is to harm or embarrass the real person, it is not unethical or illegal. To protect yourself from identity theft: do not tap or click links in or reply to spam; install a personal firewall; clear or disable web cookies; turn off file and printer sharing on your Internet connection; set up a free email account to use for merchant forms; sign up for email filtering; shred financial documents before you discard them; provide only the required information on website forms; avoid checking your email or performing banking activities on public computers; request a free copy of your medical records; obtain your credit report once a year; request to be removed from mailing lists; place your phone number on the National Do Not Call Registry; avoid shopping club and buyer cards; do not write your phone number on charge or credit receipts; do not preprint your phone number or Social Security Number on personal checks; fill in only the required information on rebate, warranty, and registration forms; and block your phone number from displaying on the receiver's system.

31. A tag is a short descriptive label that you assign to webpages, photos, videos, blog posts, email messages, and other digital content so that it is easier locate at a later time. Many websites and web apps support tagging, which enables users to organize their online content. List steps to tag digital content. When tagging digital content: apply tags to all digital media, such as photos, music, and videos; separate tags with a separator; choose tags that are descriptive of the content you are posting; after you have tagged the digital content, perform a search on the media sharing site for your content, using the tags as your search criteria, to verify your content is displayed as intended.

32. E-commerce is a business transaction that occurs over an electronic network, such as the Internet. Business-to-consumer (B2C) e-commerce consists of the sale of goods and services to the general public, such as at a shopping website. Consumer-to-consumer (C2C) e-commerce occurs when one consumer sells directly to another, such as in an online auction. Business-to-business (B2B) e-commerce occurs when businesses provide goods and services to other

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businesses, such as online advertising, recruiting, credit, sales, market research, technical support, and training.

33. A content aggregation website or web app, sometimes called a curation website, allows users to collect and compile content from a variety of websites about a particular topic or theme. Types of content that may be compiled includes news, reviews, images, videos, podcasts and blogs. Content aggregation websites save users time because they need to visit only the content aggregation website instead of visiting multiple websites to obtain information

34. 1. Plan the website: Identify the purpose, visitors, distinguishing factors, navigation, and domain name. 2. Design the website: appearance, layout, colors, formats, and content. 3. Create the website using a word processing program, a content management system, website authoring software, a text editor, or specialized website management software. 4. Host the website using: a web hosting service, or an online content management system. 5. Maintain the website: ensure its contents are current and all links work properly, test user satisfaction and solicit feedback, and run analytics.

35. The responsive web design approach adapts the layout of the website to fit the screen on which it is displayed.

36. When evaluating a website's content, consider its: affiliation, audience, authority, content, currency, design, and objectivity.

37. Multimedia refers to any application that combines text with media.

38. Many webpages use colorful graphics to convey messages. Many webpages use animation, which is the appearance of motion created by displaying a series of still images in sequence. Audio includes music, speech, or any other sound. Video consists of images displayed in motion. Most video also has accompanying audio. You also can upload, share, or view video clips at a video sharing site. Virtual reality (VR) is the use of computers to simulate a real or imagined environment that appears as a three-dimensional (3-D) space. A plug-in, or add-on, is a program that extends the capability of a browser.

39. . A thumbnail is a small version of a larger image. An infographic (short for information graphic) is a visual representation of data or information, designed to communicate quickly, simplify complex concepts, or present patterns or trends.

40. Bitmap, GIF, JPEG, PNG, and TIFF are common web graphic formats. With JPG files, the more compressed the file, the smaller the image and the lower the quality. PNG is a patent-

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free compressed graphics format that restores all image details when the file is viewed; the PNG format does not lose image quality during compression.

41. On a computer or mobile device, run the program or app from which the digital media is available. Enter the name or keyword(s) in the Search box. Tap or click the Search button to perform the search. Navigate through the search results and then tap or click the search result for the item you want to download. Locate and then tap or click the Download button or link to download the digital media to your computer or mobile device.

42. Email is the transmission of messages and files via a computer network. An email list is a group of email addresses used for mass distribution of a message. Internet messaging services, which often occur in real-time, are communications services that notify you when one or more of your established contacts are online and then allows you to exchange messages or files or join a private chat room with them. A chat is a real-time typed conversation that takes place on a computer or mobile device with many other online users. A chat room is a website or application that permits users to chat with others who are online at the same time. An online discussion, or discussion forum, is an online area in which users have written discussions about a particular subject. VoIP uses the Internet (instead of the public switched telephone network) to connect a calling party to one or more local or long-distance called parties. FTP (File Transfer Protocol) is an Internet standard that permits file uploading and downloading to and from other computers on the Internet.

43. An email address is a combination of a user name and a domain name that identifies a user so that he or she can receive Internet email. A user name is a unique combination of characters, such as letters of the alphabet and/or numbers that identifies a specific user. In an Internet email address, an @ (pronounced at) symbol separates the user name from the domain name. Your service provider supplies the domain name.

44. Real time refers to Internet communications in which both parties communicate at the same time.

45. To set up a personal VoIP service and make a call: search for a VoIP program or app; if necessary, download the program or app for the VoIP service you will use; create a new account; sign in to the VoIP service with your user name and password; make sure the person you are calling also has an account with the same VoIP service; on the list of contacts, select the person you want to call and then tap or click the appropriate button to place the call; when the other

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person answers, you can start your voice or video call; when you are ready to end the call, tap or click the button to end the call; when you are finished using the VoIP service, you should sign out of and exit the VoIP program or app.

46. A home user uses digital communications in many ways, including: using apps to find services and read reviews; use an electronic calendar web app; blog; use a wiki; send and receive text messages; use a Bluetooth headset and a smartphone's voice-to-text feature to respond to texts; schedule a recurring payment; and use a bookmarking site.

47. Netiquette is the code of acceptable behaviors users should follow while on the Internet; that is, it is the conduct expected of individuals while online.

48. Cyberbullying is harassment using technology, often involving teens and preteens. Unlike verbal bullying, the perpetrators can hide behind the anonymity of the Internet and can reach a wide audience quickly. Victims cannot just walk away or ignore bullying that comes in the form of text messages, email, or online social network posts. Cyberbullying often takes place outside of school hours on personal devices or computers not owned or monitored by the school. Anti-bullying laws vary from state to state and often do not include specific language about cyberbullying.

49. Uses of technology in the transportation industry include: onboard navigation systems; bar codes; computerized instrumentation, navigation, communications, weather reports, and an autopilot; and detailed electronic maps.

CHECKPOINT

TRUE/FALSE		MULTIPLE CHOICE	MATCHING
1.	T	A	E
2.	F	C	I
3.	T	B	A
4.	F	A	G
5.	T	D	J
6.	T	B	H
7.	T	D	D
8.	F	C	B
9.	T		F
10.	T		C
11.	F		

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12.	F

CONSIDER THIS

Answers to the Consider This questions will vary, and may require students to think beyond what they have learned in the chapter.

1. Answers to the Critical Thinking questions posed in the boxed elements in this chapter will vary.
2. ARPA's original goals were to build a network that (1) allowed scientists at different physical locations to share information and work together on military and scientific projects and (2) could function even if part of the network were disabled or destroyed by a disaster such as a nuclear attack.
3. A broadband Internet service has fast data transfer speeds and an always-on connection.
4. An IP address is a sequence of numbers that uniquely identifies the location of a computer or device connected to the Internet. A domain name is a text-based name that corresponds to the IP address of a server that hosts a website.
5. Cybersquatting is not ethical, because it is an attempt to force trademark owners to pay for a domain name that includes their trademark.
6. Cybersquatters buy and register unused or lapsed domain names so that they can profit from selling them. The goal of the Anticybersquatting Protection Act (ACPA) is to protect trademark owners from being forced to pay a cybersquatter for a domain name that includes their trademark.
7. Visitors to a static webpage all see the same content each time they view the webpage. With a dynamic webpage, the content of the webpage generates each time a user displays it.
8. A proxy server is another computer that screens all your incoming and outgoing messages; it prevents your browsing history, passwords, user names, and other personal information from being revealed.
9. Safe browsing techniques include the following: verify the website is safe; turn off location sharing; clear your browsing history; never store passwords; use a phishing filter; enable a pop-up blocker; use private browsing; and use a proxy server.
10. Popular mobile browsers include Chrome, Firefox, Internet Explorer, Safari, and Opera Mini.
11. GPS receivers determine their location on Earth by analyzing at least 3 separate satellite signals from 24 satellites in orbit.
12. When you allow an app to track your location, you can find driving directions, coupons, or restaurant tips, and share your location with friends. Location-tracking apps also aid with emergency services. Others, though, can track your location without your knowledge, leaving you vulnerable to the risk of being robbed or stalked.
13. To improve your search results, use specific nouns; put the most important terms first in the search text; list all possible spellings; before using a search engine, read its Help information; if the search is unsuccessful with one search engine, try another; and perform the Internet Research Search Skills exercise in each chapter of this book.

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14. To minimize privacy and security risks on online social networks, register with caution; manage your profile; choose friends carefully; limit friends; divulge only relevant information; be leery of urgent requests for help; and read the privacy policy at each website.
15. Avoid checking email or performing banking activities at public computers, as they may be running keyloggers, which record keystrokes in a hidden file, or other tracking software. If you do, sign out of any password-protected websites and clear the browser's cache.
16. E-commerce (short for electronic commerce) is a business transaction that occurs over an electronic network, such as the Internet. The term, m-commerce (short for mobile commerce) refers to e-commerce that takes place using mobile devices.
17. During the planning phase of a website, you should do the following: (1) identify the purpose of the website and the characteristics of the people you want to visit the website, (2) determine ways to differentiate your website from other similar ones, (3) decide how visitors will navigate the website, and (4) register the desired domain name.
18. The steps of web publishing are: (1) plan the website, (2) design the website, (3) create the website, (4) host the website, and (5) maintain the website.
19. To evaluate a website, you should consider affiliation, audience, authority, content, currency, design, and objectivity.
20. The JPEG format is a compressed digital format that attempts to reach a balance between image quality and file size; however, the more compressed the file, the smaller the image and the lower the quality. The PNG format is a patent-free compressed graphics format that restores all image details when the file is viewed, meaning the format does not lose image quality during compression.
21. Practical applications of virtual reality (VR) include science educators using VR models, companies using VR to showcase products or create advertisements, and architects creating VR models of buildings and rooms.
22. You typically can obtain plug-ins at no cost from various websites.
23. Other Internet services include email, email lists, Internet messaging, chat rooms, online discussions, VoIP, and FTP.
24. When using email, you should (1) keep messages brief, (2) respond to messages promptly, (3) use proper grammar, spelling, and punctuation, (4) never respond to unsolicited messages, (5) use meaningful subject lines, (6) read the message before you send it, and (7) use email when you want a permanent record of a communication.
25. To place an Internet phone call, you need a broadband Internet connection, a microphone and speaker, and VoIP software.
26. Anonymous FTP allows anyone to transfer some, if not all, available files.
27. Examples of cyberbullying include sending or forwarding text messages, posting embarrassing or altered pictures of someone without his or her permission, or setting up a fake online social network page where others make cruel comments and spread rumors about someone.

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PROBLEM SOLVING

These exercises ask students to solve practical computer problems by using outside resources available to them, including but not limited to a computer or mobile device, articles on the web or in print, blogs, podcasts, videos, television, user guides, other individuals, and electronics or computer stores. Tip Sheets, which are suggested starting points for the Problem Solving exercises, are included within the End of Chapter Solutions folder on your Instructor Resources disc. Answers may vary.

HOW TO: YOUR TURN

These hands-on activities solidify the concepts presented in the chapter with practical application. Answers may vary.

INTERNET RESEARCH

In these exercises, students use various web resources to discover additional information related to this chapter. Encourage students to use their browsers and the link in each exercise or a search engine to complete selected exercises. Answers will vary for the Making Use of the Web, Social Media, Search Skills, Security, and Cloud Services exercises.

CRITICAL THINKING

Thought-provoking situations exercise students' minds and challenge them to construct creative solutions. The Critical Thinking exercises are intended to be discussed or presented in class, assigned for student research, or completed as a team. The Case Study will provide students with a common framework within to explore and find answers as they complete the chapters in the book. Answers will vary.

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