Chapter One

Introduction to Computers

Discovering Computers 2011

Living in a Digital World



A World of Computers

Computers are everywhere



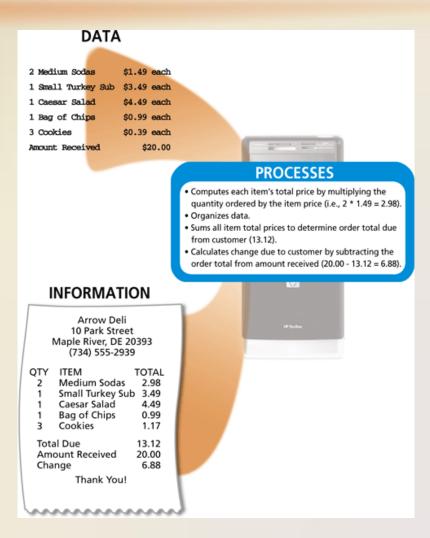
What Is a Computer?

 A computer is an electronic device, operating under the control of instructions stored in its own memory



Information Processing Cycle

What Is a Computer?



Page 6 Figure 1-2

The Components of a Computer

 A computer contains many electric, electronic, and mechanical components known as hardware

Allows you to enter data and instructions into a computer		
 Hardware component that conveys information to one or more people 		
 Case that contains the electronic components of the computer that are used to process data 		
 Holds data, instructions, and information for future use 		
 Enables a computer to send and receive data, instructions, and information to and from one or more computers or mobile devices 		

The Components of a Computer



Page 7 Figure 1-3

Advantages and Disadvantages of Using Computers

Advantages of Using Computers

Speed

Reliability

Consistency

Storage

Communications



Health Risks

Violation of Privacy

Public Safety

Impact on Labor Force

Impact on Environment

Computer Software

 Software, also called a program, tells the computer what tasks to perform and how to perform them



System Software

- Operating system
- Utility program



Click to view Web Link, click Chapter 1, Click Web Link from left navigation, then click Windows below Chapter 1

Pages 15 - 16 Figures 1-10 - 1-11



Application Software

Computer Software

 A programmer develops software or writes the instructions that direct the computer to process data into information

Public Class frmPayrollInformation						
Private Sub btnCalculatePay_Click(ByVal sender As System.Object, ByVal e As System. EventArge) Handles btnCalculatePay.Click 'This procedure executes when the user clicks the 'Calculate Pay buttom. It calculates regular 'and overtime pay and displays it in the window.						
¹ Declare variables Dim striffour#Worked As String Dim striffour#Worked As Decimal Dim decHour#Worked As Decimal Dim decKour#Wate As Decimal Dim decOvertimePay As Decimal Dim decOvertimePay As Decimal Dim decOvertimePay As Decimal						
Calculate and display payroll inf strBoursWorked = Me.txtBoursWorked. strBourlyMate.Te decHoursWorked = Convert.ToDecimal(decHoursWorked = Convert.ToDecimal(strDourlyMate = Convert.ToDec	.Text ext (strEoursWorked)					
<pre>If decNoursWorked > 40 Then decNegularPay = 40 * decNourlyRate He.txtRegularPay.Text = decNegularPay.ToString("C") dedOvertimePay = (1.5 * decOvertimeNours) * decNourlyRate He.txtOvertimePay.Text = decOvertimePay.ToString("C") decTotalPay = decRegularPay + decOvertimePay He.txtOvertimePay.Text = decOvertimePay He.txtOvertimePay.Text = decTotalPay.ToString("C") </pre>						
Elem (c) the constraint of the constraint of the constraint (c) the constraint of th						
End Sub End Class						
-	Payroll Information					
	Employee Name	Robert Terrell				
	Hours Worked	42				
	Hourly Rate	18.00				

Calculate Pay

\$720.00

\$54.00

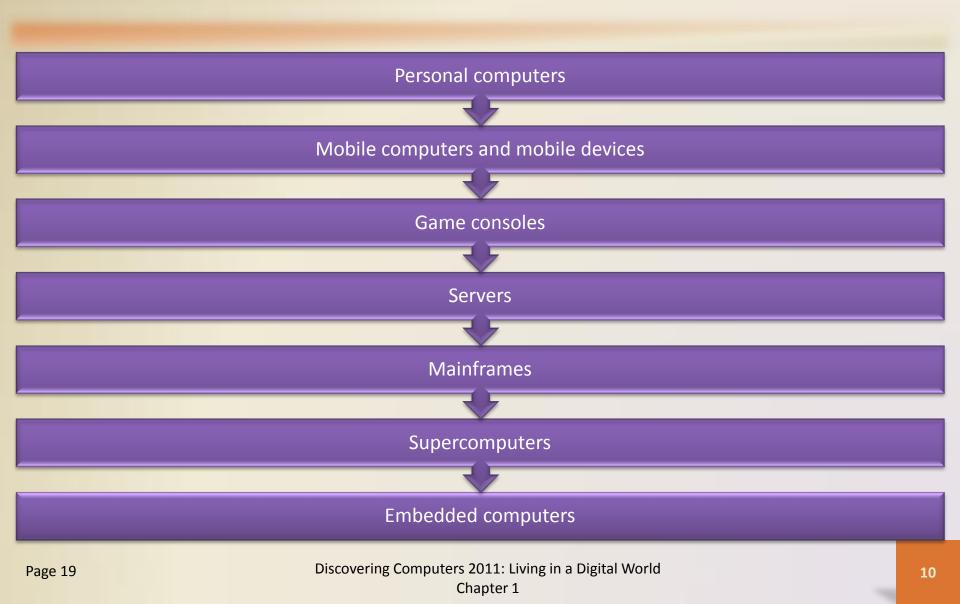
\$774.00

Regular Pay

Overtime Pay

Total Pay

Categories of Computers



Servers

- A server controls access to the hardware, software, and other resources on a network
 - Provides a centralized storage area for programs, data, and information



Mainframes

 A mainframe is a large, expensive, powerful computer that can handle hundreds or thousands of connected users simultaneously



Supercomputers

- A supercomputer is the fastest, most powerful computer
 - Fastest supercomputers are capable of processing more than one quadrillion instructions in a single

second



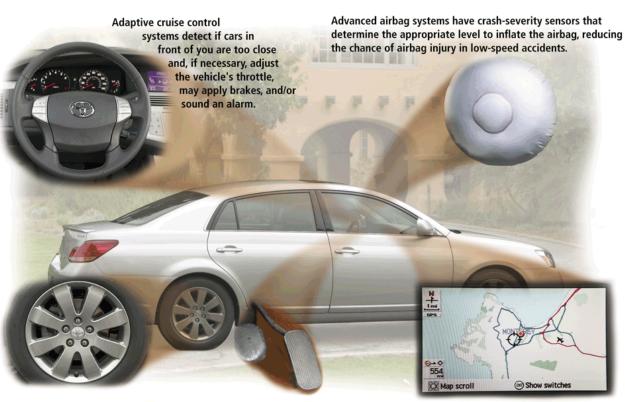
Page 25 Figure 1-27

Embedded Computers

 An embedded computer is a special-purpose computer that functions as a component in a larger product

Consumer	Home Automation	Automobiles	Process Controllers	Computer Devices
Electronics	Devices		and Robotics	and Office Machines
 Mobile and digital telephones Digital televisions Cameras Video recorders DVD players and recorders Answering machines 	 Thermostats Sprinkling systems Security monitoring systems Appliances Lights 	 Antilock brakes Engine control modules Airbag controller Cruise control 	 Remote monitoring systems Power monitors Machine controllers Medical devices 	 Keyboards Printers Faxes Copiers

Embedded Computers



Tire pressure monitoring systems send warning signals if tire pressure is insufficient. Drive-by-wire systems sense pressure on the gas pedal and communicate electronically to the engine how much and how fast to accelerate. Cars equipped with wireless communications capabilities, called *telematics*, include such features as navigation systems, remote diagnosis and alerts, and Internet access.

Elements of an Information System



People

Procedures



Click to view Web Link, click Chapter 1, Click Web Link from left navigation, then click Women in Technology below Chapter 1

Elements of an Information System

