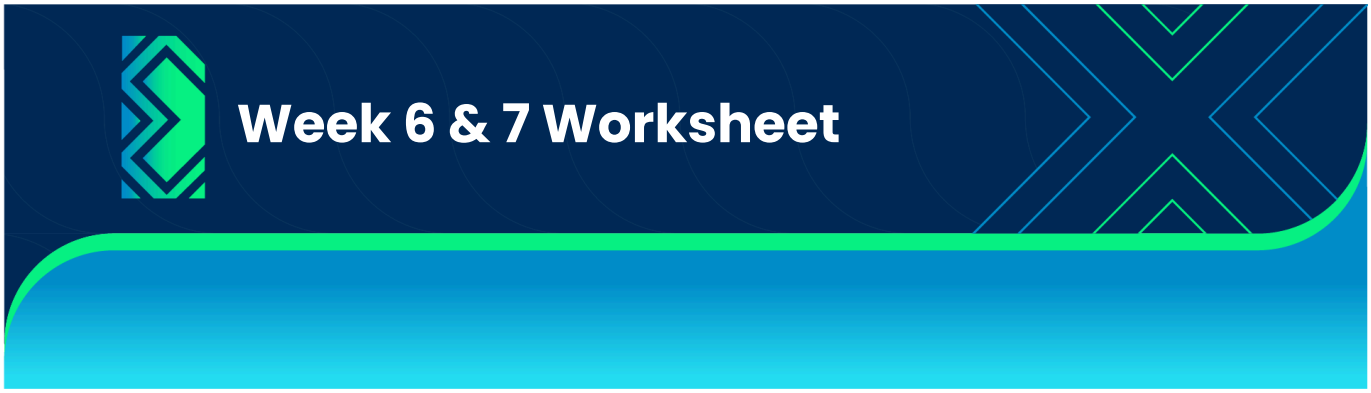

Worksheet Details:

You will use this worksheet to record your responses to all activities that require you to do so in the instructions. Each time an activity references this worksheet to record your responses, you must open this copy of your worksheet and add your response in the appropriate section. This specific worksheet will be **used for all Weeks 6 and 7 activities**.

To complete the assignment, you must follow these steps:

1. Complete this worksheet with the responses from your activity.
2. You'll find that each question has a submission block where you must put in your answers.
3. You must complete all the blocks available under a question. Leaving a block empty will mean the question is not being answered (even if you answer it somewhere else).
4. Make sure you place the correct answer under the right question. Misplaced answers will not be marked.
5. Save and submit this worksheet to Savanna.

Instructions:

1. You must fill out this worksheet and submit it as your assignment response.
2. Use tools like Foxit, Adobe Acrobat, or PDFGear to add your responses in the blank **spaces provided under a question or set of instructions**.

3. Read the instructions and questions carefully before responding.
4. **Do not** try to edit any part of this worksheet!
5. Save this worksheet using the convention "*FirstName_LastName_Assignment_Week6&7.pdf*".

Week 6 – Activity: Flowcharts and Pseudocode

Go through the instructions provided on Savanna and complete the following tasks.

Task 0: Visualizing Complex Processes Through Flowcharts

The question's objective is to test your understanding of flowchart symbols and their uses. By matching the function descriptions with the correct shapes, you will demonstrate your knowledge of how flowcharts are used to represent processes and algorithms visually. This will help you develop your skills in creating and interpreting flowcharts.

Task:
For each of the symbols stated below, briefly describe what they represent on a flowchart.

Your Response:

In the spaces below, describe what the stated symbol stands for. Keep your response brief.

Circle	
Cylinder	
Rectangle	

Trapezoid	
Triangle	
Parallelogram	
Arrow	
Double-headed arrow	
Oval	
Pentagon	
Diamond	
Hexagon	

Task 1: Well-Structured Pseudocode is the Foundation of a Well-Structured Program

This question assesses your understanding of the primary purposes of pseudocode. By selecting the correct options, you will demonstrate your knowledge of how pseudocode is used in software development and its benefits in planning, designing, and understanding code.

Task:

Select 5 primary purposes of pseudocode in the options given below.

A. To provide a human-readable outline of a program's logic.
B. To write executable code.
C. To create visual representations of algorithms.
D. To test the functionality of a program.
E. To plan and design algorithms before writing code.
F. To replace the need for writing actual code.
G. To communicate the intended functionality of a program to others.
H. To break down complex problems into smaller, manageable steps.
I. To aid in debugging and troubleshooting code.
J. To create user interfaces.
K. To generate documentation automatically.
L. To optimize code performance.

Your Response:

In the space below, from the options above, provide the 5 primary purposes of pseudocode.

1.
2.
3.
4.
5.

Task 2: Mastering Flowcharts and Pseudocode: Key to Effective Problem-Solving

This task assesses your understanding of the key differences between flowcharts and pseudocode. By selecting the correct statements, you demonstrate your knowledge of how these tools represent and communicate algorithms, their strengths, and their limitations. This exercise helps you develop a strong foundation in problem-solving and software development.

Task:

Select five correct options from the comparative statements given below.

A. Flowcharts use diagrams and symbols to represent the logical flow of a process, while pseudocode is a textual description.

B. Flowcharts can be more visually appealing and easier for non-technical individuals to understand, while pseudocode is often more detailed and precise.

C. Flowcharts are executable, while pseudocode is not.
D. Flowcharts are better suited for complex algorithms, while pseudocode is better for simple ones.
E. Flowcharts provide a high-level process overview, while pseudocode can include more specific details and logic.
F. Flowcharts are primarily used for visualization and communication, while pseudocode is often used for planning and development.
G. Flowcharts can be created using specialized software or drawing tools, while pseudocode can be written in a simple text editor.
H. Flowcharts are specific to a particular programming language, while pseudocode is language-independent.
I. Flowcharts are more effective for debugging than pseudocode.
J. Flowcharts are better for collaboration than pseudocode.

Your Response:

In the space below, provide the 5 correct statements, from the options above.

1.
2.
3.
4.

5.

Week 7 - Activity: Problem-Solving and Debugging

Go through the instructions provided on Savanna and complete the following tasks.

Task 0: A Keen Eye for Detail is Essential in Effective Debugging

This task assesses your understanding of problem-solving debugging and its key aspects. By selecting the incorrect description, you demonstrate your ability to identify misconceptions and recognize the core components of effective debugging practices. This helps ensure a solid foundation in problem-solving and debugging skills.

Task:
Among the following, select the incorrect description associated with problem-solving debugging.

A. Problem-solving debugging is the systematic process of identifying and fixing errors or bugs in computer programs.
B. Problem-solving debugging is a skill that requires patience, logical thinking, and a deep understanding of programming concepts.
C. Problem-solving debugging is simply the process of fixing errors in code.
D. Problem-solving debugging is an essential part of the software development lifecycle.

Your Response:

In the space below, provide your response using the options given above.

Task 1: A Systematic Approach to Debugging is Key to Efficient Problem-Solving

This task assesses your understanding of the problem-solving debugging process. By arranging the steps correctly, you demonstrate your knowledge of the systematic approach to identifying and fixing errors in code.

Task:
Arrange the steps below to form a correct and practical problem-solving debugging process.

- Identify the problem
- Fix the problem
- Isolate the problem
- Test
- Analyze the problem

Your Response:

In the space below, provide the debugging steps from the options above in the correct order.

Step 1	
Step 2	
Step 3	
Step 4	
Step 5	

Task 2: Mastering Debugging Skills

This task assesses your understanding of effective debugging strategies. By correctly identifying the strategies that can help troubleshoot and fix software errors, you will demonstrate your problem-solving skills and knowledge of debugging techniques.

Task:
Debugging strategies are crucial for ensuring the quality and reliability of software. They help developers identify and fix errors efficiently, leading to better user experiences and preventing potential issues from escalating.

From the options below, select 5 correct effective debugging strategies.

A. Divide and conquer
B. Guessing
C. Ignoring error messages
D. Use a debugger
E. Consult documentation
F. Overcomplicating the solution
G. Randomly changing code

H. Reading error messages
I. Print statements

Your Response:

In the space below, provide the 5 correct effective debugging strategies from the abovementioned options.

1.
2.
3.
4.
5.

Once you have completed this worksheet:

1. Save as .pdf.
2. Rename it per the instructions.
3. Upload to Savanna as your Week 8 Assignment Submission.
4. **Celebrate a job well done!**