We Solve It! Report

Student Name ____Austin Marshall, George Moore, Kianna Weldon Student ID__909395441, 909364783, 909365273

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Title of Assignment (if applicable) _____Group Project_____

DISCOVER

1. What was the real-world situation that you (or your team) addressed in this assignment or activity? In what way(s) might this be a problem? (Define Problem)

   Taking two different sorting algorithms and determining which of the two is better for time and cost. Since the amount of data being sorted was so high it was hard to create a way of testing it.

2. What are some possible causes of this problem? (Define Problem)

   The cause of not being able to test it was because the limits of our computers. The arrays would have been to large to test.

3. What were possible solutions to the problem that you (or your team) identified? (Identify Strategies)

   To make up for the lack of computing power that we had, we shortened the array size by 1000 and tested it. This allowed us to get actual data back from the two programs with the largest array that we could run.

4. Why did one or some of these possible solutions appear stronger than others you (or your team) developed? (Identify Strategies)

   Because even if we did the math to figure out how long it would take there would be not way of comparing that to actual data returned from running the program. This meant that we had to find some way to run the program to have a base line to compare to.

DESIGN

5. What could be done to try to solve this problem? (Propose Solution)

   You could write code to produce a formula using the base line data you got from running the programs to be able to enter in an array size for N and solve for the time taken to run the program.

6. Why would this solution(s) address/fix the problem? (Propose Solution)

   This would allow you to find the time taken to run either program no matter how big of an array size is input.

7. What are the strengths and limitations of this possible solution(s) to this problem? (Evaluate Solution)

While this would give you farther data to help support what you actual return data is telling you, the limitation of this is that you have no way of proving any of this data because its all based on a formula you created to try and solve it. That is not a big deal if you have a linear growth but when you have a power growth it is a lot harder to figure out exactly from using a formula.

8. Why should you or your team's proposed solution to the real-world problems be considered creative, reasonable, and powerful? (Evaluate Solution)?

   It shows that even with the limitations of the technology that we had, we still found a way to get the data that we needed and develop projected future data with it. By using the return data from testing the programs, we can use that to help verify that the formulas created are as accurate as possible.

DELIVER

9. What did you consider to make your presentation of the solution persuasive? (Deliver Solution)

   We considered the two main things that a company would care about, Time and Cost. We had to show how much better the one program was compare to the other. The best way to show this is using a PowerPoint showing the charts and graphs of the data about both programs.

10. What feedback did you receive about the persuasiveness of your solution? (Deliver Solution)

    We have not received feedback yet.

REFLECT

11. What new learning or insights did you or your team gain through this real-world problem solving experience? (Evaluate Outcomes)

    We learned a lot about how to analyses a program and how much work it takes to write a technical report correctly.

12. What would you or your team do differently to improve DISCOVER, DESIGN, DELIVER skills of creative real-world problem-solving in the future? (Evaluate Outcomes)

    We could have found a way to divide up tasks more efficiently than we did and that would have made everything go faster and easier.

13. How would you evaluate the overall problem-solving ability of you or your team? (Evaluate Outcomes)

    I think we did a good job figuring out a way to solve the problem and we did it very quickly.