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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	(1) In Definition 2.2, if $(Y; *, 1)$ is a BCL⁺-algebra, then $(Y; \leq)$ is a partially ordered set. Of course, this is appeared in [2]. But, did you check it? How do you calculate the transitivity of "$\leq$" ? (2) In Theorem 2.1, (iv) is not a property to prove. It is an axiom which is used in Definition 2.1. (3) Theorem 2.1(i) is incorrect since $(1*(1*2)) = 3 \neq 1$ in [2, Table 1]. (4) Theorem 2.1(ii) is incorrect since $3*1 = 3 \neq 1$ in [2, Table 1]. (5) Line 69: why is this a definition? (6) The proof of Theorem 3.3 is incorrect. (7) There are so many (grammatical) typos. For example, Suppose that B be subalgebra ... etc. (8) In line 68, you said "Note that $x \vee y$ is an upper bound of x and y." Is it true? How do you calculate it? If this is true, then Lemma 3.4 is surplus.	Thanks for pointing out this. (1) We often call the partial ordering $\leq$ defined in Definition 2.2 the BCL⁺-ordering on Y. Thus, the following basic result will prove to be useful. Theorem 3.1. Let Y be a BCL⁺ algebra. Let $x \leq y$ iff $x * y = 1$, then $\leq$ is partially ordered on Y, that is $(Y; \leq)$ is a partially ordered set with greatest element 1 (and unit element) of Y. Proof. (i) Reflexivity: If $x * x = 1$, then $x \leq x$. (ii) Anti-symmetry: If $x \leq y$ and $y \leq x$, then $x * y = 1$ and $y * x = 1$, by Definition 2.1(BCL⁺ 2), we have $x = y$. (iii) Transitivity: If $x \leq y$ and $y \leq z$, then $x * y = 1$ and $y * z = 1$. If $(1 * x) * 1 = 1$, $1 * (1 * x) = 1$, by Definition 2.1(BCL⁺ 2), we have $1 * x = 1$. If $(x * 1) * x = 1$, $x * (x * 1) = 1$, by Definition 2.1(BCL⁺ 2), we have $x * 1 = x$ and $(x * 1) * x = x * (x * 1)$. If $(z * y) * 1 = 1$, $1 * (z * y) = 1$, by Definition 2.1(BCL⁺ 2), we have $z * y = 1$. Continuing this way, we see that $y * x = 1$. Hence the transitivity of $\leq$ implies that $ \begin{aligned} x * z &= ((x * z) * 1) * (1 * 1) \\ &= ((x * z) * (y * z)) * ((x * y) * (z * y)) \\ &= ((x * y) * z) * ((x * z) * y), \end{aligned} $ and



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	(9) Examples of a filtration and a deductive system should be provided. As a whole, the organization of this article is too rough.	$ \begin{aligned} x * z &= ((z * x) * 1) \\ &= (z * x) * (y * x) \\ &= (z * y) * x. \end{aligned} $ Then we have $x * z = (((x * y) * z) * ((x * z) * y)) = ((z * y) * x).$ Reasoning as above and using Theorem 2.2 (iii), we have $ \begin{aligned} x * z &= (((x * z) * 1) * (1 * 1)) * ((z * x) * 1) \\ &= (((x * z) * (y * z)) * ((x * y) * (z * y))) * ((z * x) * (y * x)) \\ &= (((x * y) * z) * ((x * z) * y)) * ((z * y) * x) \\ &= 1, \end{aligned} $ and $x \leq z$, and we know that BCL^+ algebras have partial order. Let $x \leq 1$, then $x = x * 1 = 1$, shows that 1 is the partially ordered greatest element. $\square$ (2) In fact, Theorem 2.1 that is the equivalent for the definition of a BCL^+ algebra, and the completeness are considered by Theorem 2.1 (iv). (3) and (4) This Table 1 is merely an example. It is not as a tool to prove other theorems. (5) This Definition 3.1, of course, a good starting point and we can dig deeper from it. For example, use Definition 3.1 to prove Lemma 3.2 - 3.4, Theorem 3.3, 3.6, etc. (6) Theorem 3.3. Now
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		Theorem 3.4. Suppose that B is a subalgebra of Y. Then B is a filtration and $x \in B$ if and only if $1 * x \in B$. Proof. If B is a filtration, then $1 * x \in B$ implies $x \in B$. Conversely, let $x \in B$ and $x * y \in B$. Since B is subalgebra, by Definition 2.3 ($BCL_{\leq}^+$ 3), we have $1 * y \leq (1 * x) * (1 * y) \leq (x * y) * x \in B.$ We see that $y \in B$, and B is a filtration. $\square$ (7) Suppose that B is a be subalgebra ... (8) In line 67, we have to define the operation $x \vee y := (y * x) * x$ (9) In this paper, we introduce the concept and point out some of its properties. And that means (if we give thoughtful consideration to the theoretical features), in ways that are yet to be showed any example of its use. Thank you again for your helpful suggestions.
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Optional/General comments		