

Corrections to the book "Quantum calculus" by Victor Kac and Pokman Cheung

1. Page 11, in the formula above (3.10) instead of $(a - q^{n+1}x)$ should be $(a - q^n x)$
2. page 12. In the example should be $[n]D_q^{j-1}x^{n-1} = [n][n-1]D_q^{j-2}x^{n-1}$
3. page 42, in the second line of formulas the symbol $\sum_{m|n}$ should be deleted (twice).
4. page 52, line 11. Instead of $n \rightarrow -\infty$ should be $n \rightarrow \infty$
5. page 74. The proof of Corollary 20.1 should be deleted, and the statement of this Corollary preceding formula (20.2) should read as follows:
If $f(x)$ is continuous at $x = 0$ and $x^\alpha D_q f(x)$ is bounded on the interval $(0, A)$ for some $0 < \alpha < 1$ and $A > 0$, we have
6. page 76. There are divergence problems with the definition (21.6) of the q-gamma function because the function E_q^{-x} , surprisingly, blows up along some sequences as x tends to infinity. (It is because the radius of convergence of the series (9.7) for e_q^x is $1/(1-q)$, not infinity.) However, if we replace the upper limit of the integral (21.6) by $1/(1-q)$, this difficulty is removed, but all arguments on page 77 still hold with little modifications, given below.
The upper limit of the integral in the definition (21.6) of the function $\Gamma_q(t)$ should be $1/(1-q)$ instead of ∞
7. page 77. The first sentence should read: First we note that by (9.10), $E_q^0 = 1$ and $E_q^{-1/(1-q)} = 0$.
The upper limit of the integral in lines 3 and 7 should be $1/(1-q)$ instead of ∞ .
The sentence after the definition of the q-beta function should read:
By the definition of the q -integral (19.7), we have
In the line that follows the letter a should be removed, the next line should be removed, and in line 9 from the bottom the upper limit of the integral should be 1 instead of ∞ . The line after that should be removed.
The upper limit of the integral in line 5 from the bottom should be 1 instead of ∞ .
In line 4 from the bottom should be (19.14) instead of (19.15).
In line 3 from the bottom the upper limit should be $1/(1-q)$ instead of ∞ .
8. page 79. Instead of the sentence Then both sides are formal power series in q . should be
Then both sides are formal power series in two variables q and $v = q^t$.

9. page 80. At the end of the first paragraph add:
We shall assume that $h > 0$.
10. page 81. In Example replace $(x + b)^N$ by $(x + b)_h^N$ (twice).
11. page 83. In line 6, instead of $D_h(F(x)g(x))$ should be $D_h(f(x)g(x))$
In line 8 from the bottom, instead of $a < b$ should be $0 \leq a < b$
In the subsequent definition of $f(x)$ add that $f(0) = 0$
12. page 84. In line 13 after $h > 0$ add and $x > a$
In formula (22.19) replace $|x - a|^{n+1}$ by $(x - a)_h^{n+1}$



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