

ON DISTRIBUTIONS OF CONDITIONAL EXPECTATIONS

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Abstract: Let F and G be distribution functions on \mathbf{R} . Then there exist a random variable X and a σ -field \mathfrak{U} satisfying $P(X < a) = F(a)$, $P(E(X|\mathfrak{U}) < a) = G(a)$ iff $\int_{(a,\infty)}(F(t) - G(t))dt \leq 0 \leq \int_{(-\infty,a)}(F(t) - G(t))dt$ for any $a \in \mathbf{R}$. The consideration is kept on a rather elementary level.

1991 AMS Mathematics Subject Classification: 60E05.

Key words and phrases: distribution of random variable, conditional expectation.

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