Cumulative distribution function (CDF) is defined as
\[ F(t) = P(X \leq t) \quad \text{for} \quad -\infty \leq t < +\infty \] (any real \( t \))

See p. 88 of the textbook for definition (also in the continuous case) and the property
\[ F'(x) = f(x) \]
where \( f(x) \) is PDF of a random variable.

See also §3.2 of Bertsekas & Tsitsiklis's book if you have it.

In the homework you are assigned to compute CDF by definition \( \Box \).

Another way to compute CDF's (which works only in continuous case) is from PDF
\[ F(x) = \int_{-\infty}^{x} f(t) \, dt. \]

Example 1: CDF of Bernoulli random variable.
\[ X = 1 \text{ with prob } \frac{1}{2} \]
\[ 0 \text{ with prob } \frac{1}{2} \]