Exercises

(1) Find a function harmonic in the upper half of the z-plane, **Im** $z > 0$, which takes the prescribe values on the x axis given by $G(x) = 1$ for $x > 0$, and $G(x) = 0$ for $x < 0$.

(2) Find a function harmonic inside the unit circle $|z| = 1$ and taking the prescribed values given by $F(\theta) = 1$ for $0 < \theta < \pi$, and $F(\theta) = 0$ for $\pi < \theta < 2\pi$ on its circunference.