

- 1) Demonstrate Deutsch algorithm for oracular function $f(0)=1$ & $f(1)=0$.
- 2) Demonstrate Quantum teleportation of the $|\psi\rangle = \frac{1}{\sqrt{3}}|0\rangle + \sqrt{\frac{2}{3}}|1\rangle$ from Alice to Bob.
- 3) Demonstrate Grover's algorithm for $w=01$ as the two bit special string. Create the entire circuit and showcase how the circuit reveals the secret string hidden in the oracle.