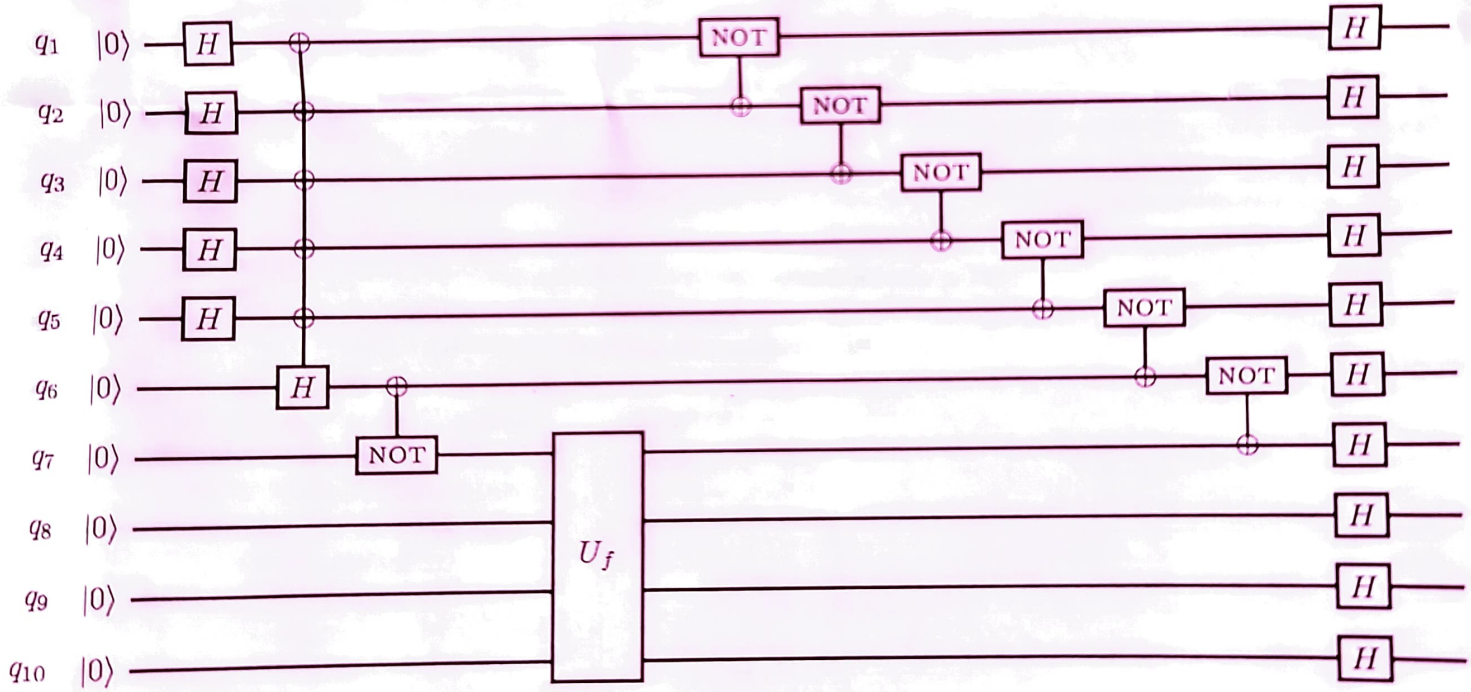
The 3-bit classical function is

$$f(x,y,z) = (x+y)^{x+y+z} + (y+z)^{x+y+z} \pmod 2.$$

Write and run a quantum program to implement this circuit on your quantum computer.



You measure the bits $q_2, q_4, q_6, q_8, q_{10}$. Hand in your program, quantum computer code and a file Probabilities.txt containing the probabilities for each possible measurement. Your file should be something like

```
00000  0.05
00001  0.001
```