Notebook Chapters:

1. **Quantum Programming Environment**
2. Quantum Programming Types
   1. **Qbit**
   2. **Qbool**
   3. **Qbin**
   4. **Qwhole**
   5. Qint
   6. Qpositive
   7. Qreal
3. Quantum Programming Structures
   1. Qbit Operators and Operations in Expressions and Assignments
   2. Qbool Operators and Operations in Expressions and Assignments
   3. Qbin Operators and Operations in Expressions and Assignments
   4. Qwhole Operators and Operations in Expressions and Assignments
   5. Qint Operators and Operations in Expressions and Assignments
   6. Qpositive Operators and Operations in Expressions and Assignments
   7. Qreal Operators and Operations in Expressions and Assignments
   8. Qblock, Qrutine and Qfunction
   9. Formatting printouts of quantum statements and types
4. Use of Quantum Programming Types & Structures
   1. **Solving Problems Using Qbit Expressions and Assignments**
   2. **Solving Antennas Selection Problem Using Qbool**
   3. **Solving Friends & Enemy and Antenna Selection Problems Using Qbin**
   4. **Finding Product Factors and Prime Numbers using Qwhole**
   5. Qint
   6. Qpositive
   7. Qreal
5. Quantum Program Computing using QUBO
   1. Quantum Operators and Operations QUBO Transformation
   2. QUBO Compiler and Analyzer
   3. D5QuboSolver & QUBO Paging
   4. Solvers in dann5.dwave module
   5. D-Wave ExplicitSolver and LeapHybridSampler
   6. D-Wave Advantage and Advantage2
   7. RSA Decoding with D-Wave LeapHybridSampler
   8. QUBO, BQM and Ising model Transformations
6. Quantum Program computing using Qiskit Circuits
   1. dann5.qiskit
   2. dann5 Circuit and Circuit Compiler
   3. Circuit Transformation of Quantum Operations
   4. Qiskit QuantumCircuit
   5. Qiskit AerSimulator
   6. IBM Qiskit backend
   7. ibmq\_qasm\_simulator
   8. executing QUBO using Qiskit QAOA

A screenshot of a computer

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