1. Evaluate the volume of the solid bounded above by $z = 2 - x^2 - y^2$, and below by $z = x^2 + y^2$,

   Sol:

2. Evaluate the volume of the solid bounded below by the upper nappe of the corn $z^2 = x^2 + y^2$, and above by the sphere $z^2 + x^2 + y^2 = 4$.

   Sol:

3. $\iint_R (x + y)^2 \sin(x - y)\, dA$, where R is the region with four vertices (0,1),(1,2),(2,1),(1,0).

   Sol:

4. Evaluate the iterated integral $$\int_0^{\frac{\pi}{4}} \int_0^1 y \cos x \, dy dx$$	5. Evaluate the iterated integral by exchanging the order of integration. $$\int_0^1 \int_y^1 \sin x^2 \, dx dy$$
6. Evaluate the double integral $$\iint_R x e^y \, dA$$ Where the region R is triangle bounded by y=4-x, y=0, x=0.	7. Evaluate the volume of the solid bounded by the graph of $$z = \ln(x^2 + y^2), z = 0,$$ $$1 \le x^2 + y^2 \le 4$$