Quiz 6 — MA261 — July 14, 2017
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1. Find the volume of the region bounded by the paraboloid $z = 4 - x^2 - y^2$ and the xy coördinate plane by changing to cylindrical coördinates.

2. Evaluate $\iiint_R (x^2 + y^2)\, dV$, where R is the region between the spheres of radius 1 and 2 centered at the origin.

   Hint: $\displaystyle\int_0^\pi \sin^3 u \, du = 4/3$