Early in fetal development, primitivegerm cells in the ovaries differentiate into oogonia.In spermatogenesis, four functional sperm develop from each primary spermatocyte.The diploid(46 chromosomes) primary oocytes replicatetheir DNAand begin the first meiotic division, but the processstops in prophaseand the cells remain in this suspendedstate until puberty.Many of the primary oocytes degenerate before birth, but even with this decline, the two ovaries together contain approximately 700,000 oocytes at birth.This is the lifetime supply, and no more will develop.If fertilizationoccurs, meiosis II continues,again this is an unequal division with all of the cytoplasm going to the ovum, which has 23 single–stranded chromosome.The large cellundergoes an unequal division so that nearly all the cytoplasm, organelles, and half the chromosomes go to one cell, which becomes a secondary oocyte.If fertilization does not occur, the second meiotic division is never completedand the secondary oocyte degenerates. These divide rapidly to form thousands of cells, still called oogonia,which have a full complementof 46 (23 pairs) chromosomes.This is quite different than the male in which .spermatogonia and primary spermatocytescontinue to be produced throughout the reproductive lifetime