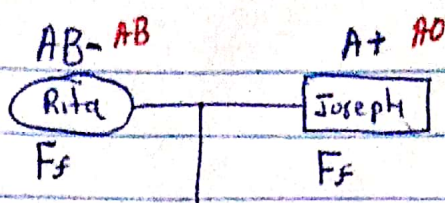
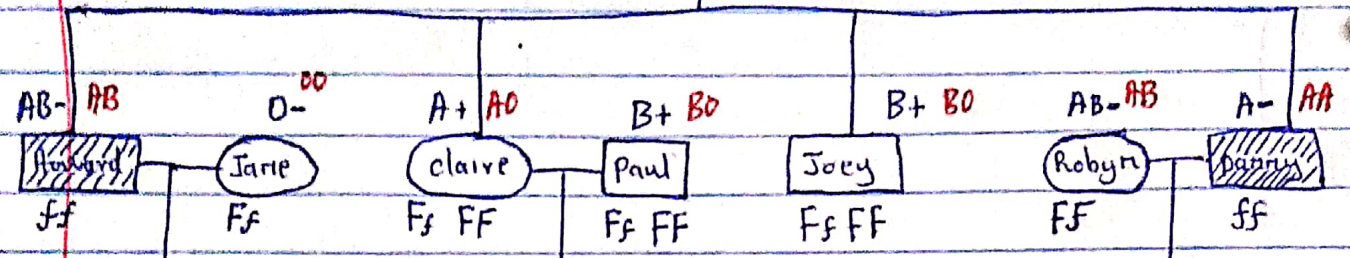


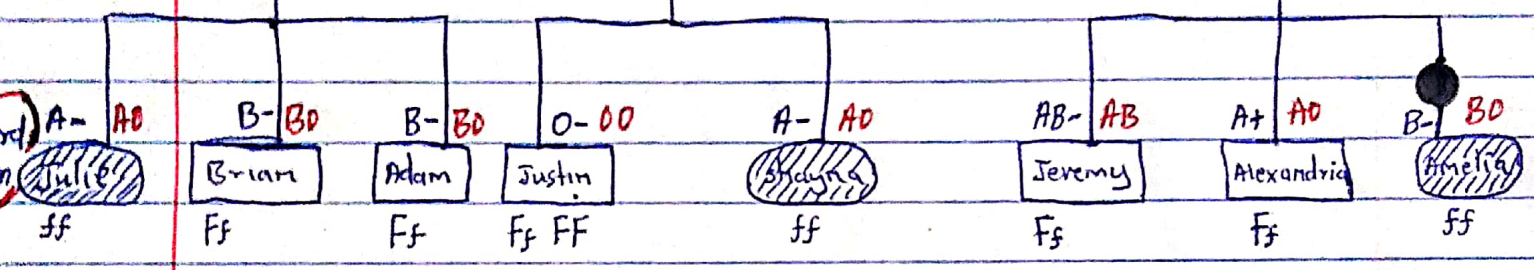
(first gen)



(Second Gen)



(3rd Gen)



## Analysis Questions

1) Explain the inheritance pattern of the earlobe attachment trait. Explain how you determined this - Shape of the earlobe is determined by two alleles, the dominant being one for the free earlobes while the recessive one being for the attached earlobe. Having that each parent contributes half of the genetic information to offspring the genes for shape of earlobe are inherited and become phenotypically expressed (attached earlobe) if the alleles are homozygous recessive.

2 Explain the two inheritance of blood type

The ABO blood group express a codominance in that A and B are expressed equally thus AB while the O is recessive and will be expressed in its homozygous recessive form, thus the inheritance follows this where each generation's blood groups are determined/dependent on the inherited genes from both parents.

The Rhesus factor is ~~an~~ independent from the blood group genes thus is inherited separately and presence of the Rh is dominant over its absence which is recessive. Thus this genes also are determined by genes passed from both parents to the offspring.

3 What did you determine Joseph's blood type to be. include genotype and phenotype. Explain how you determine this. include punnet square to support your reasoning.

♀ Joseph	A	B
A	AA Danny	AB Howard
O	AO Claire	BO Joey

From the genotype outcome of the children one could determine the possible genotype of the father (Joseph) thus his blood group A

Who was the thief of the money? How did you determine this. Include what the thief's potential motive may have been for stealing the money.

- Shayma is the thief.

- Possible motive would have been to enrich herself among the grandchildren of Joseph.

How are pedigrees a useful tool for understanding inheritance patterns? Think of at least three ways they are beneficial.

- It can enable the study of any population when/if progeny data from these generations is limited.

- Helps to show the relationship between family members.

- Shows some patterns of inheritance in several generations for a particular trait.