# In-Class-15

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1. A = {Z1, SL, SW, PL, PW}

E = {Z1, Z2, Z3, Z4, SL}

D = {Z1, Z2, Z3, Z4, SW}

A union E = {Z1, Z2, Z3, Z4, SL, SW, PL PW}

1. D intersection E = {Z1, Z2, Z3, Z4}
2. C = {Z1, Z2, Z3, SW, PL}

S = {Z4}

Cmut = C union S = {Z1, Z2, Z3, Z4, SW, PL}

1. C = {Z1, Z2, Z3, SW, PL}

S = {Z2}

Cmut = C – S = {Z1, Z3, SW, PL}

1. C = {Z1, Z2, Z3, SW, PL}

Cmut = {C – {Z2}} union {Z4} = {Z1, Z4, Z3, SW, PL}

1. Actual number of sets = 5

Union = 5 c 2 = 5! / (2! \* 3!) = 10

Intersections = 10

Number of cross overs = union + Intersections + Actual = 25

Number of mutations = 25

Total = Crossovers + Mutations = 25 + 25 = 50

Time = 50 \* 0.1 = 5 seconds

1. Actual number of sets = 6

Unions = 6 c 2 = 6! / (2! \* 4!) = 15

Intersections = 15

Number of cross overs = unions + Intersections + Actual = 36

Number of mutations = 36

Total = Crossovers + Mutations = 72

Time = 72 \* 0.1 = 7.2 seconds