Assignment-4 (2 weeks)

[For plotting any point, use your implemented grid and plotpoint () only.]

Consider an imaginary animal (Fig.6) is made of fundamental shapes. Variation of body parts are shown in the Table 6.

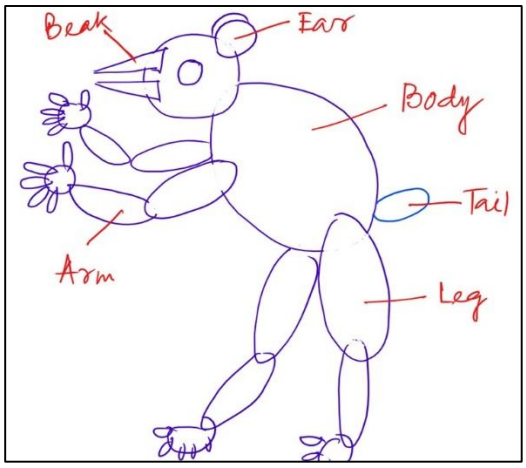
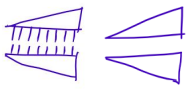
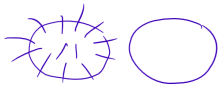
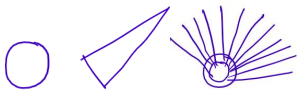


Fig. 6: The animal

Table 6: Features of the animal

1	Head	No variation
2	Eye	No variation
3	Beak	Feature-1: Big, Small Feature-2: Toothy, Toothless 
4	Ear	Shape1, Shape2 
5	Body	Feature-1: Spotted, Spotless  Feature-2: Hairy, Hairless 
6	Arm/Leg	Feature-1: Spotted, Spotless Feature-2: Hairy, Hairless Feature-3: Long, Medium, Short
7	Tail	Shape1, Shape2, Shape3 

On the other hand, multipoint cross over is a genetic operator carried out between parents in which multiple points are selected. The operation is illustrated with the help of Fig.6.

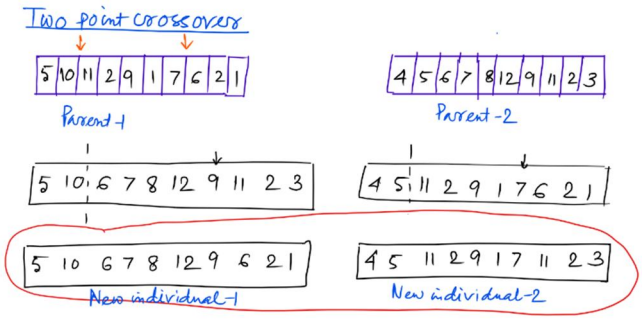


Fig. 6: Crossover operation

Part- I: 1 week

1. Represent an animal with feature vectors considering variations.

Part- II: 1 week

2. Create two different animals and perform multipoint crossover between two feature vectors to generate a new animal.