

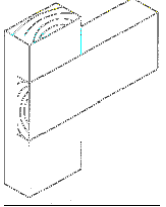
# Design & Manufacture

## Homework 25

### Tee Joints

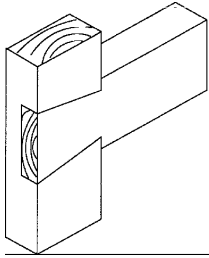
#### **Tee Halving**

Used for lightweight frames, especially those to be covered with boarding. The joint is quick and easy to cut.



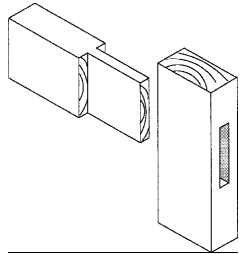
#### **Dovetail Halving**

A stronger version of the Tee Halving. Used for medium weight frame works.



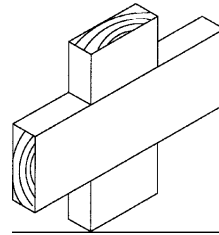
#### **Mortise and Tenon**

A strong joint that is quite difficult to cut and fit by hand. Used for heavier frameworks and uncovered frameworks.



### Crossover Joints

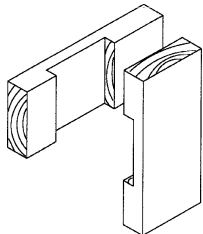
some frameworks pieces of wood have to cross one another



#### **Cross**

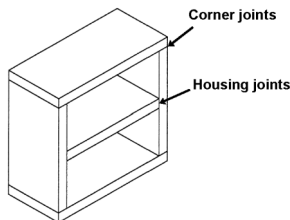
#### **Halving**

This joint is quite strong and resists twisting. This is the only crossover joint that is flush (flat) on both sides.



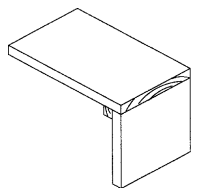
#### **Box Joints**

Used for general furniture construction.

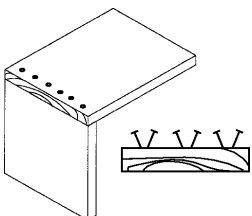


#### **Butt joint**

A weak joint on its own. The example shown has a reinforcing wooden strip glued to the inside. A quick and easy joint to make. This joint can also be used with manufactured board.

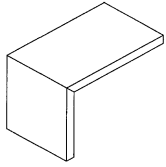
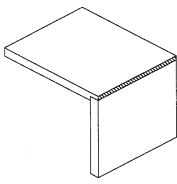


Another way of reinforcing the joint is to use pins. For greatest strength the pins are best used in pairs and angled towards each other. This is known as dovetail pinning.



## Lap

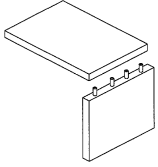
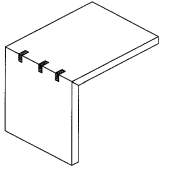
Although stronger than a butt joint, the lap joint is best when reinforced with dovetail pinning or screws.



## Mitre joint

This joint although weak, has the advantage of not showing any end grain, it looks neat and clean.

To reinforce the joint, grooves can be cut into the corner and then triangular pieces of thin wood are glued into the grooves.

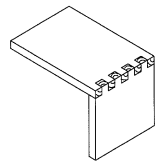
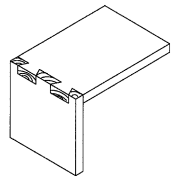


## Dowel joint

This looks like a butt joint but is a lot stronger. It is difficult to line up the holes without using a dowelling jig. This joint can also be used with manufactured board.

## Dovetail joint

A very strong joint. Used for drawers where the front is pulled every time the drawer is used. It is difficult to mark out and cut. This joint is also used as a design feature.



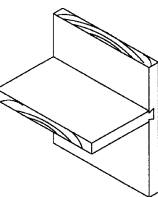
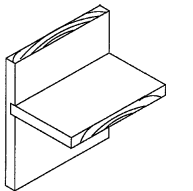
## Comb or Finger joint

A strong joint (a lot of side-grain to side-grain contact). The joint can be considered as a design feature because if it is well fitted it adds to the good looks of the furniture.

## Housing Joints

### Through Housing

Used for fitting shelves into cabinets or units and partitions in boxes.

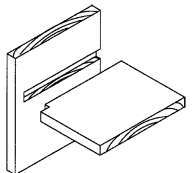


### Dovetail Housing

A stronger form of a through housing. The groove is best cut with an electric router.

### Stopped Housing

Can be either a plain or dovetail housing. It has the advantage of not showing the joint at the front.



## Questions.

1. Name and sketch two joints suitable for the corner of a framework.

2. How a weak butt joint can be reinforced.

3. How a mitre joint can be reinforced.

3. What is the main problem to overcome when making a dowel joint?