Session 25
University of Southern California
IOM455 April 19, 2010

Outline

- **Questions? Comments?**
- **Lab**
  - **Chapter 10: Organizing and Formatting Project Details**
- **Negotiation**
  - **Some more game theory**
  - **Reservation values**

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Chapter 7

In this chapter, you will learn how to:

- Adjust task links to have more control over how tasks are related.
- Apply a constraint to a task.
- Identify the tasks on the critical path.
- Split a task to record an interruption in work.
- Create a task calendar and apply it to tasks.
- Change a task type to control how Project schedules tasks.
- Record deadlines for tasks.
- Enter a fixed cost and specify how it should accrue.
- Set up a recurring task in the project schedule.

Chapter 8

In this chapter, you will learn how to:

- Set up different pay rates for resources.
- Set up pay rates that will change over time for a resource.
- Set resource availability to change over time.
- Delay the start of a resource assignment.
- Control how a resource's work on a task is scheduled over time by using work contours.
- Apply different cost rates for a resource assigned to different kinds of tasks.
- Enter variable consumption rates for material resources.

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Chapter 9

In this chapter, you will learn how to:

- Look at how resources are scheduled to work over the duration of a project.
- Edit a resource assignment to resolve a resource overallocation.
- Resolve resource overallocations automatically.
- See detailed and overall project costs.
- See tasks on the critical path that determines a project's finish date.

LAB

10 Organizing and Formatting Project Details

In this chapter you will learn to:

- Sort task and resource data.
- Display task and resource data in groups.
- Filter or highlight task and resource data.
- Create a custom table.
- Create a custom view.

Resource groups

Each resource in the Short Film Project plan is assigned to one of several resource groups. These groups have names like Crew, Production, Talent, and other names that make sense in a film production company.

For your project plans, you might use resource groups to represent functional teams, departments, or whatever most logically describes collections of similar resources.

Sorting all resources by resource group enables you to see more easily the costs associated with each resource group. This can help you plan your project's budget.

You can also sort resources within each group by cost from most to least expensive.

In this exercise, you sort a resource view.

Use the chapter 10 file

View menu, click Resource Sheet.

The Resource Sheet view appears. By default, the Entry table appears in the Resource Sheet view; however, the Entry table does not display the cost field per resource. You will switch to the Summary table instead.

View menu, point to Table: Entry, and then click Summary.

Project menu, point to Sort, and click Sort By.

The Sort dialog box appears.

Under Sort By, click Cost in the drop-down list, and next to that, click Descending.

Clear Permanently renumber resources check box

The sort order applies to the active view, regardless of the specific table currently displayed in the view.

Project menu, point to Sort, and then click Sort By.

The Sort dialog box appears. In it, you can apply up to three nested criteria.

Under Sort By, click Group in the drop-down list, and next to that,

You can sort by any field, not just the fields visible in the Under Then By (in the center of the dialog box

click Cost in the next to that, click Descending.

Clear Permanently renumber resources check box

Click the Sort button

Return it to its original order:

Project menu, point to Sort, and then click By ID.

In this exercise, you group resources by their Group name (this is the value in the Group field—Crew, Equipment, and so on).

This is similar to the sorting you did in the previous section, but this time you will see summary cost values for each resource group.

Project menu, point to Group By: No Group, and then click Resource Group.

Project reorganizes the resource data into resource groups, adds summary cost values per group, and presents the data in an expanded outline form.

Project applies colored formatting (in this case, a yellow background) to the summary data rows. Because the summary data is derived from subordinate data, you cannot edit it directly.

You'll now create a group.

Project menu, point to Group By: Resource Group, click More Groups.

The More Groups dialog box appears:

In this dialog box you can see all the available predefined groups for tasks (when in a task view) and resources (when in a resource view). Your new group will be most similar to the Resource Group, so you'll start by copying it.

Select Resource Group, click the Copy button.

The Group Definition in dialog box appears.

Name box, type Resource Groups by Cost.

Field Name column, click the first empty cell below Group.

Type or select Cost.

Order column, select Descending for the Cost field.

The resources will be sorted within their groups by cost from highest to lowest values.

Next you'll fine-tune the cost intervals at which Project will group the resources.

Click the Define Group Intervals button.

The Define Group Interval dialog box appears.

Group on box, select Interval.

Group interval box, type 1000.

Click the OK button.

Click OK again to close the Group Definition in dialog box.

Resource Groups by Cost appears as a new group in the More Groups dialog box.

Click the Apply button.

Project applies the new group to the Resource Sheet view. To get a better look at the groupings, you'll need to widen the Resource Name column.

Double-click the Resource Name column heading.

The Column Definition dialog box appears.

Click the Best Fit button.

Project widens the Resource Name column. After applying a two-level group, information is grouped first by resource group and then within each group by cost.

The resources are grouped by their resource group value (the yellow bands that bind together Crew, Equipment, and so on) and within each group by cost values at $1,000 intervals (the gray bands).

Project menu, point to Group By: Resource Groups By Cost, and click No Group.

Filtering Project Details

Another useful way to change the way you view Project task and resource information

is by filtering. As the name suggests, filtering hides task or resource data that does not meet the criteria you specify, displaying only the data you're interested in.

Like grouping, filtering does not change the data in your Project plan; it just changes the way that data appears.

1) Predefined filters, or 2) Apply an AutoFilter

View menu, click Gantt Chart.

Formatting toolbar, click the AutoFilter button.

Project displays arrows to the right of the column headings. After turning on AutoFilter, these arrows appear next to column headings.

Click the arrows to choose the AutoFilter you want.

Click the down arrow in the Task Name column heading, and then click (Custom).

The Custom AutoFilter dialog box appears. You'd like to see just the tasks that contain the word shoot.

Under Name, make sure contains appears in the first box.

In the adjacent box, type shoot.

Click OK to close the Custom AutoFilter dialog box.

Project filters the task list to show only the tasks that contain the word shoot and their summary tasks.

After applying an AutoFilter, the filtered column name and its AutoFilter arrow are formatted in blue.

Note that the Task Name column heading and arrow appear in blue. These are visual indicators that an AutoFilter has been applied to this view.

Next you turn off the AutoFilter and create a custom filter.

Formatting toolbar, click the AutoFilter button.

Project toggles the AutoFilter off, redisplaying all tasks in the project plan.

Now you are ready to create a custom filter.

Project menu, point to Filtered For: All Tasks, and then click More Filters.

The More Filters dialog box appears:

Click the New button.

The Filter Definition in dialog box appears.

Name box, type Uncompleted Shoots.

In the first row in the Field Name column, type or select Name.

In the first row in the Test column, select contains.

In the first row in the Value(s) column, type shoot.

That covers the first criterion for the filter; next you'll add the second criterion.

In the second row in the And/Or column, select And.

In the second row in the Field Name column, type or select Actual Finish.

In the second row in the Test column, select equals.

In the second row in the Value(s) column, type NA.

NA means “not applicable” and is the way Project marks some fields that have no value yet. In other words, any shooting task that does not have an actual finish date must be uncompleted.

Click OK to close the Filter Definition in dialog box.

The new filter appears in the More Filters dialog box.

Click the Apply button.

Project applies the new filter to the Gantt Chart view.

After applying a filter, Project hides information that does not meet the filter's criteria. Note the gaps in the task IDs; this is one visual clue that a filter has been applied.

Now the tasks are filtered to show only the uncompleted shooting tasks. Because we haven't started tracking actual work yet, all the shooting tasks are uncompleted at this time.

Rather than hiding tasks that do not meet the filter criteria, you can highlight

those that do in blue. Click the Highlight button instead of the Apply button in the More Filters dialog box.

Remove the filtering: Project menu, point to Filtered For: Uncompleted Shoots, and then click All Filter Tasks.

All filters are also available to you through the Filter button on the Formatting toolbar.

The name of the active filter appears in this button; click the arrow next to the filter name to see other filters.

If no filter is applied to the current view, All Tasks or All Resources appears on the button, depending on the type of view currently displayed.

Customizing Tables

You can modify any predefined table, or you can create a new table that contains only the data you want.

View menu, click More Views.

The More Views dialog box appears.

Click Task Sheet, and then click the Apply button.

Project displays the Task Sheet view.

View menu, point to Table: Entry, and then click More Tables.

The More Tables dialog box appears:

In this dialog box you can see all the available predefined tables for tasks (when in a task view) and resources (when in a resource view).

Make Task is the active option, and then in the list of tables, make sure that Entry is selected.

Click the Copy button.

The Table Definition in dialog box appears.

Name box, type Shooting Schedule Table.

Next you will remove several fields, add others, and then put the remaining fields in the order you want.

Field Name column, click each of the following field names, and then click the Delete Row button after clicking each field name:

Indicators, Duration, Finish, Predecessors, Resource Names

Next you will add some fields to this table definition.

Field Name column, click the down arrow in the next empty cell below Start, and then select Cast (Text9) from the drop-down list.

Align Data column in the same row, click Left.

As soon as you click in the Align Data column, Project completes row entries for the Cast field name by adding data to the Width and Align Title columns.

Width column, type or click 25.

Field Name column in the next empty row below Cast, click Location (Text10) in the drop-down list.

Align Data column, click Left.

Width column, type or click 15.

The two customized text fields Cast (Text9) and Location (Text10) contain the character names and film locations for the shooting tasks. These were previously customized in the project plan.

The remaining work to complete this table definition is to reorder the fields to match the order commonly found on a shooting schedule.

Field Name column, click Start, and then click the Cut Row button.

Field Name column, click Name, and then click the Paste Row button.

Date Format box, click 1/28/02 12:33PM.

Click OK to close the Table Definition in dialog box.

The new table appears in the More Tables dialog box.

Click the Apply button.

Project applies the new table to the Task Sheet view. If the Start column displays pound signs (###), double-click the column heading's right edge to widen it.

Prisoner's Dilemma

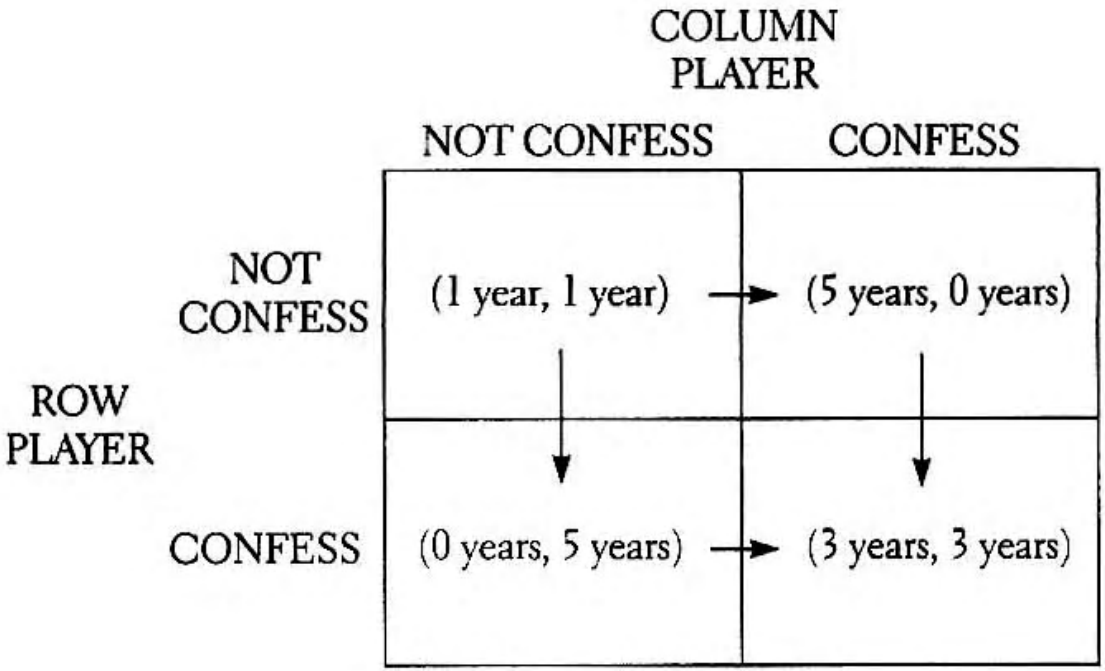
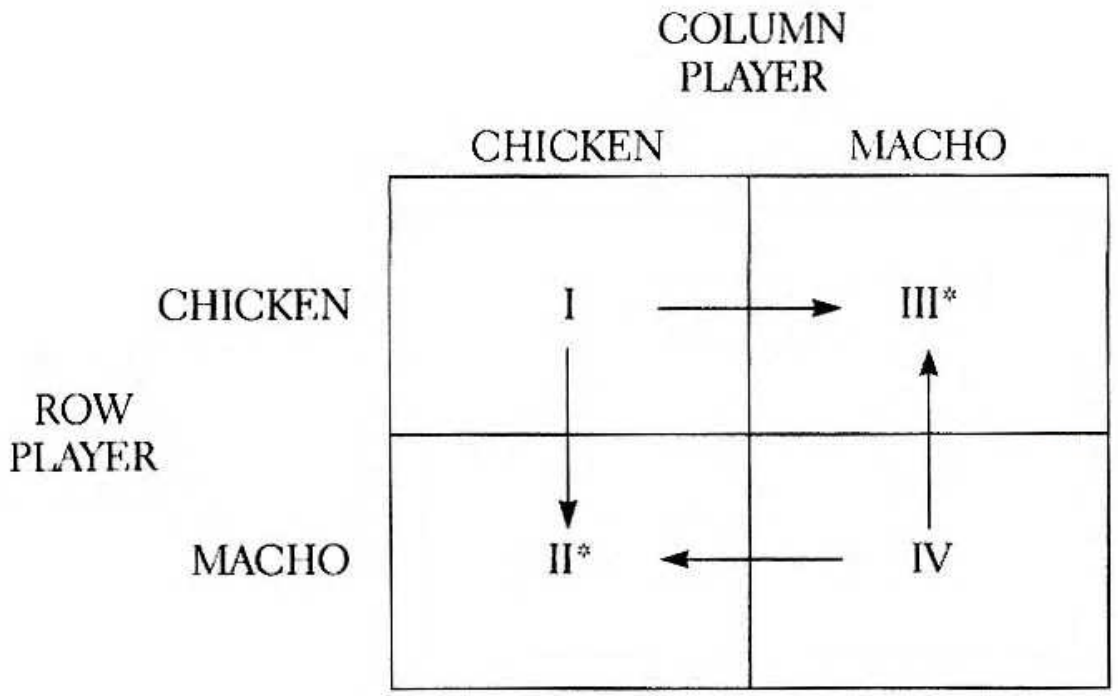


Figure 4.2. The prisoner's dilemma.

Chicken



Game 9. Chicken and the danger of mutual annihilation.

Game 10

		COLUMN PLAYER: Cooperate (C)	COLUMN PLAYER: Defect (D)
ROW PLAYER	Cooperate (C)	(5, 5)	(−5, 10)
ROW PLAYER	Defect (D)	(10, −5)	(−2, −2)

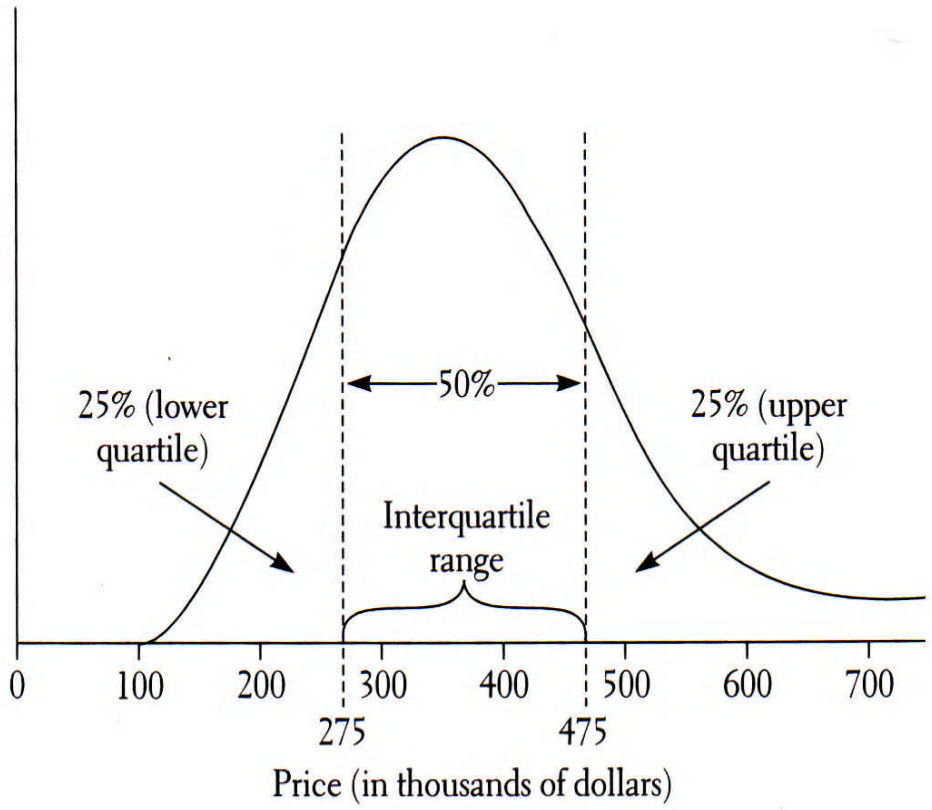
Game 10. Same as Game 8, but repeated for multiple rounds.

Basic Problem Definition

Distributive allocation

- **Two bargainers(buyer/seller) – make a joint decision which is enforceable**
- **Single deal**
- **Ignore the effects of time**
- **The alternative is the status quo**
- **Each has a predetermined alternative to a settlement**

Reserve Value Distribution



Basic Problem Definition - continued

Reservation Prices:

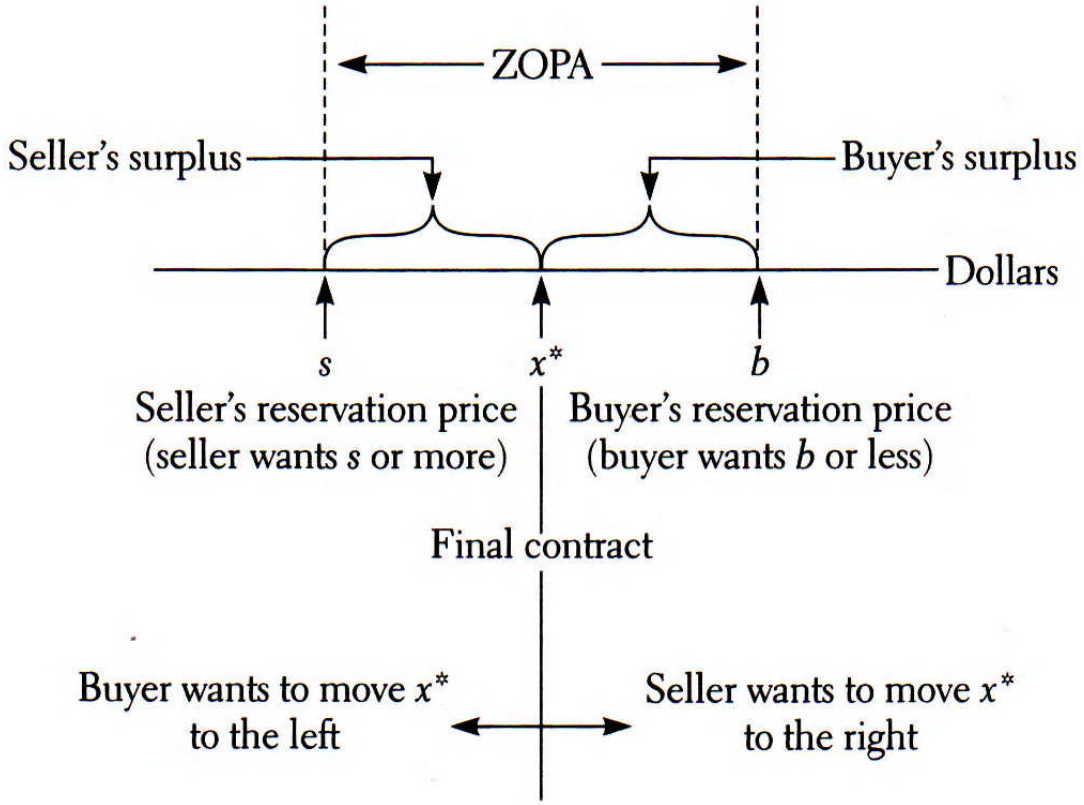
- **s : minimum the seller is willing to settle for**
- **b : maximum the buyer is willing to pay**
- **X* : final contract value (if any)**
- **X* - s : Seller's surplus**
- **b – X*: Buyer's surplus**

In general these are unknown to each other (one is known – one's own, and the other is a random variable)

Reservation prices generally do not become public

The more they lie, the more it pays to be honest and vice versa

Zone of Possible Agreement



Class exercise – known distributions

This exercise involves negotiation between a buyer and a seller

(e.g. the buyer is a program manager and the seller is the controller, this could also be about completion dates between customer and provider)

The reservation price distributions are known to both.

In this case they are uniformly distributed (every value in the range has equal probability)

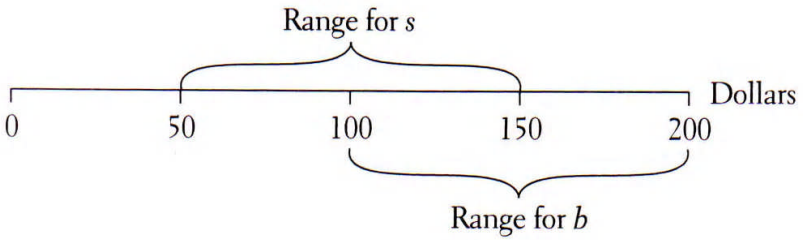
Buyer $100 to $200

Seller $50 to $150

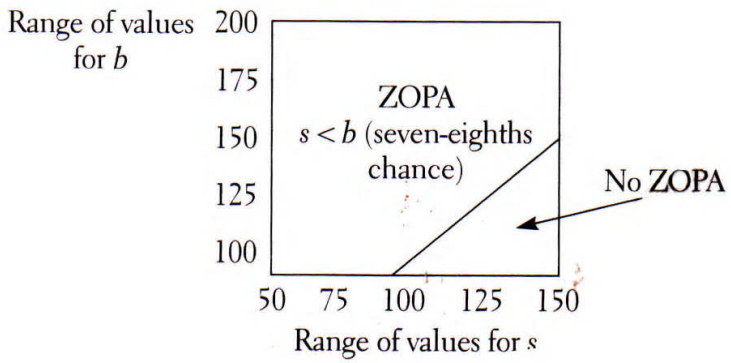
This means there is a 87.5% chance of being able to come to an agreement (See next page)

Class exercise – known distributions

ZOPA – Zone of possible agreement – overlap of the ranges of the buyer's and seller's reservation values



Distribution of reservation prices for the canonical case.



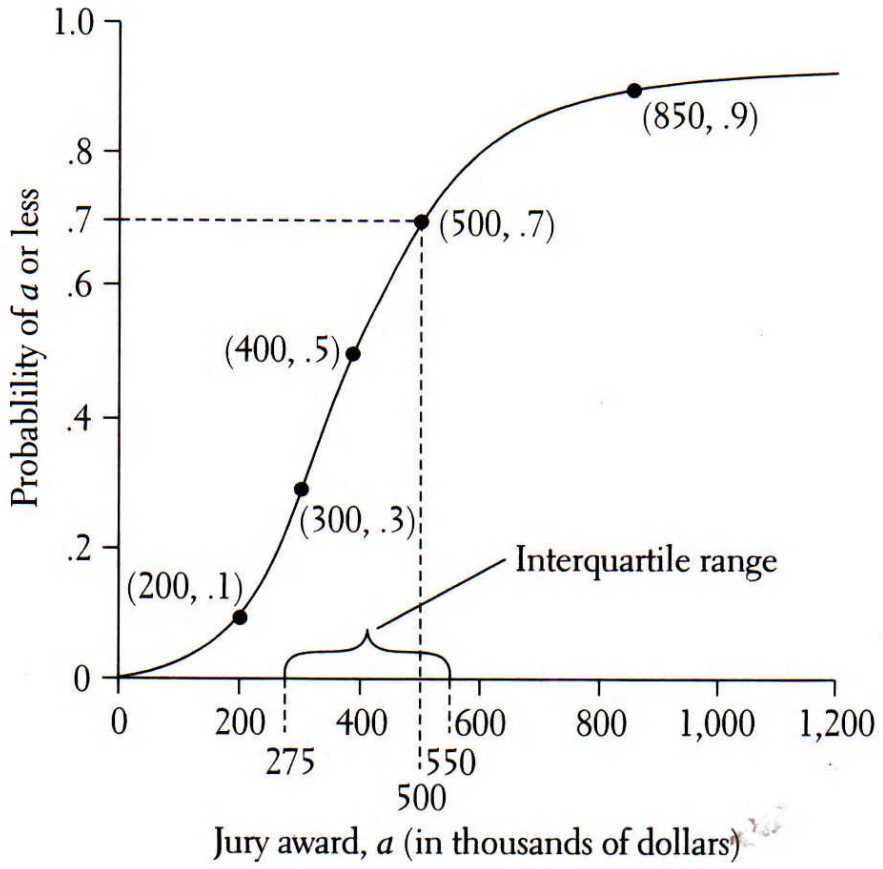
Uncertainty

Tree diagrams

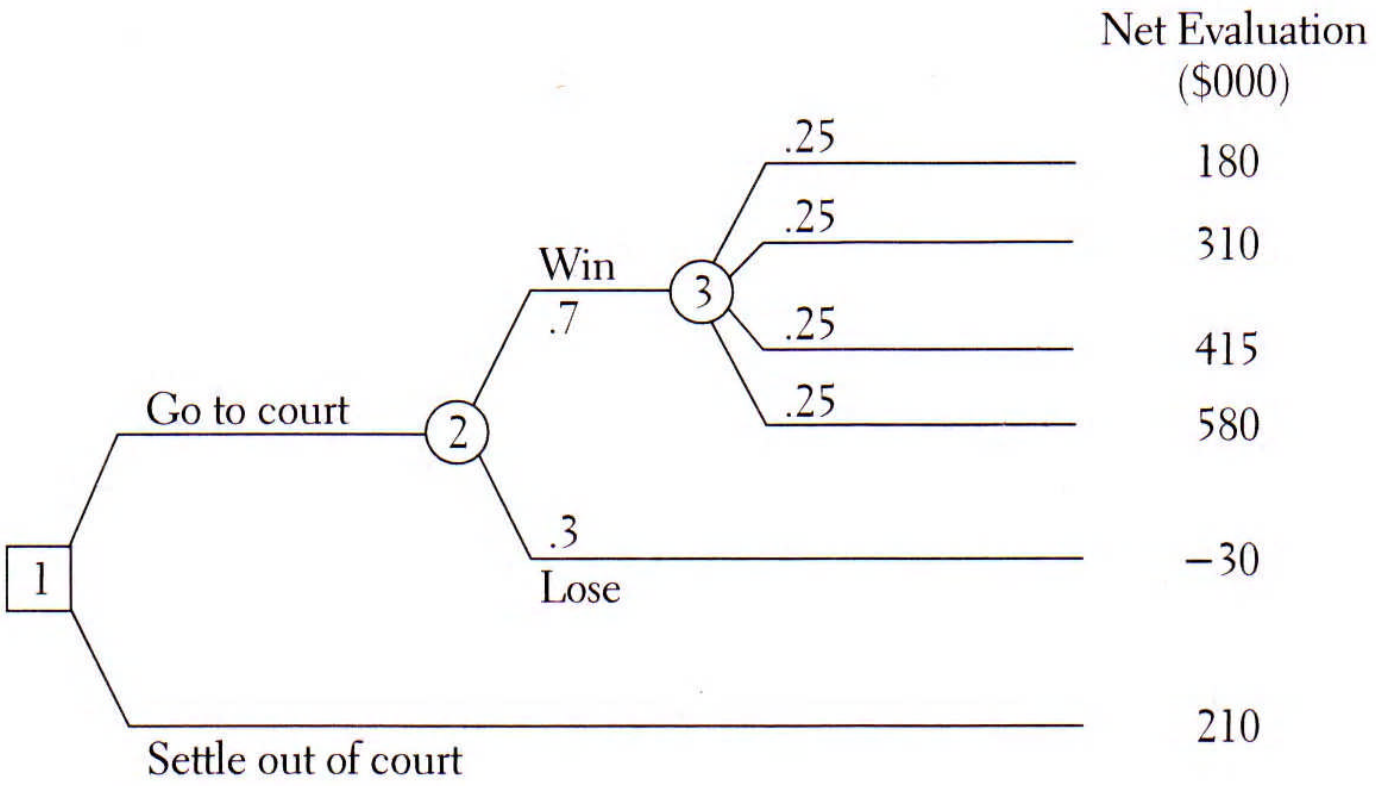
Cumulative probability distributions

Utility Curves

Cumulative Distribution



Tree Diagram



The effects of time

We must choose when to come to an agreement

- **It requires patience**
- **Sometimes there are deadlines**
- **Self-imposed penalties**
- **Real penalties**

Most people are too impatient

The effects of time – Select the best candidate

A series of sequential candidates are presented to the selector

He/She has a choice of either selecting the current candidate or going on to the next one. One cannot go back to a rejected candidate

You can tell which candidates are better

Before discussing the answer, we will play the game in class

I will present a series of numbers (there are 100)

The effects of time – Select the best candidate

You have to decide when to select a candidate. Write down your answer. I will continue to show new candidates as long as there are any of you left who have not chosen. Class results: