**Lab 1**

**Computing Tax Liability**

**Hardware/Software Setup Required**:  
Financial calculator

**Problem Description**:  
Jonathan, a single male, is trying to decide if he should get married. He wants you to help him calculate the change in his tax liability if he were to get married to his girlfriend, Sue, who is now pregnant. He wants to identify the tax savings generated by Sue buying a home. Sue is also trying to see the impact of buying a house. What can she afford? Her payment should be less than 35 percent of their income. You must calculate one payment at 30 percent of income and another at 35 percent of income.

Compare both scenarios—0 and 1 dependent—and compare their tax savings.

* Calculate the marginal tax rate obtained for a 30-year mortgage loan at 6.75 percent and a 15-year mortgage loan at 6.5 percent.
* Tax liabilities change with increased income; therefore, compare the tax liabilities filing as a single person versus filing as a married couple.
* What is the effect of the AMT on filing single versus filing as a married couple?
* Discuss the tax savings by Sue in case she buys a home.
* What is the best plan—a 30-year loan or a 15-year loan—for Sue to finance her home?

To know the tax savings generated by your mortgage, use the following Web site:  
<http://finance.yahoo.com/calculator/taxes/hom-09>  
  
Use the following Web site to estimate your taxes:   
<http://turbotax.intuit.com/tax-tools/calculators/tax_estimator.jhtml>

**Here is information related to the couple**:

1. Tax year: 2007
2. Two scenarios:
   * Single
   * Married—filing jointly
3. Age: Both 35
4. Not blind
5. No other dependents
6. Jonathan and Sue cannot claim each other as dependents—this information is needed to fill out the form

Sue's salary = $80,000 once a year and Jonathan's salary = $200,000 once a year  
401(k) contributions: 6 percent once a year  
No self-employment income

|  |  |  |
| --- | --- | --- |
| **Investment Income** | **Sue** | **Jonathan** |
| Interest bank accounts | $516 | $812 |
| Interest treasuries | 0 | $312 |
| Interest municipals | 0 | $418 |
| Ordinary dividends | 0 | $689 |
| Dividends-capital gains | 0 | 0 |
| Short-term gains | 0 | $824 |
| Long-term gains | $1,234 | $5,687 |
| Collectible and real property | 0 | 0 |

No other income

**IRA and educational expenses**

* Need for maximum IRA contribution and a work retirement plan
* No educational expenses

No business expenses  
Investment expenses: Only the interest on margin accounts; no other expense

* + Sue: $212
  + Jonathan: $1,634

|  |  |  |
| --- | --- | --- |
| **Personal Expenses** | **Sue** | **Jonathan** |
| Medical | 0 | 0 |
| Real estate | 0 | $22,654 |
| Mortgage interest | 0 | $19,438 |
| Home equity | 0 | $8,638 |
| Alimony | 0 | 0 |
| Charitable | $800 | $6,800 |
| Child care (only w/1 deduction) | $9,600 | $9,600 |

No other deductions  
No adjustments for AMT  
No other taxes and credits

|  |  |  |
| --- | --- | --- |
| **Withholding** | **Sue** | **Jonathan** |
| Federal income tax withheld | $8,345 | $21,212 |
| On average | $1,112 | $3,000 |
| Spouse information | N/A |  |
| On average | N/A |  |
| State withheld | $2,380 | $5,600 |
| On average | $340 | $800 |
| Spouse information | N/A |  |
| On average | N/A |  |
| Date of paycheck | 8/31/2007 | 8/31/2007 |
| How often | Monthly | Monthly |
| How many left | 5 | 5 |
| Spouse info | N/A | 8/31/2007 |
| How often | N/A | Monthly |
| How many left | N/A | 5 |

No tax payments

**Procedure/Steps**:

1. Go to <http://turbotax.intuit.com/tax_help/tax_calculators/tax_estimator.jhtml> or log on to <http://www.hrblock.com/taxes/tax_calculators/index.html> to use the tax estimation tool.  
     
   Fill out the following information:
   * Sue filing—single, no children
   * Sue filing—single, one child
2. Copy the summary sheet in a Word document.
3. Fill out the following information:
   * Jonathan filing—single, no children
   * Jonathan filing—married, one child
4. Copy the summary sheet in a Word document.
5. Calculate the payment amount at 30 percent and 35 percent of the mortgage Sue can afford.
6. Using the result of your calculation in Step 5 and the time value of money concepts for the two different types of mortgages at the two different rates, calculate the total mortgage amount Sue can afford.
7. Determine the tax savings for Sue on each of the mortgages. For the calculations, use:
   * <http://finance.yahoo.com/calculator/taxes/hom-09>

or

* + <http://www.hrblock.com/taxes/tax_calculators/index.html>

**Outcome**:

* You will be able to compute the approximate tax liability.
* You will be able to compute and understand the impact of children on tax liability.
* You will be able to calculate a mortgage payment using the time value of money.
* You will be able to calculate tax savings due to the interest on a mortgage.

**Lab 2**

**Internal Rate of Return and Share Pricing**

**Hardware/Software Setup Required**:  
Financial calculator

**Problem Description 1**:   
Jeff purchased a Down East Maine cabin for $50,000. The cabin needed immediate repairs and improvements costing $7,000. He spent an additional $5,000 at the end of the first year, $3,000 at the end of the second year, $6,000 at the end of the third year, and $1,500 at the end of the fourth year. At the end of the fifth year, he spent $2,000 to get the cabin ready for sale and then sold it for $150,000 at the end of the year. What was his internal rate of return?

**Procedure/Steps**:

1. Describe internal rate of return.
2. Calculate the internal rate of return for the given problem.

**Outcome**:

* You should be able to describe the internal rate of return.
* You should be able to calculate the internal rate of return.

**Problem Description 2**:  
Joan is putting aside funds in a 529 plan for her son, Eric. She has opted for the monthly deduction plan in which the deductions are 0.5 percent of her monthly pay packet. When she started the plan, she was making $5,000 per month. Each year, she gets a 5 percent raise. Calculate her return in the account if she has $6,000 at the beginning of the eleventh year.

**Procedure/Steps**:  
Calculate the internal rate of return for the given problem.

**Outcome**:  
You should be able to calculate the internal rate of return and changes in cash flow payments.

**Problem Description 3**:  
Your financial planning client bought the following equities from QRS mutual fund:

Year Amount Cost of Shares  
2001 $10,000 $21.938  
2002 $12,000 $25.492  
2003 $ 8,000 $27.381  
2004 $10,000 $22.132

What is the average cost per share for tax treatment?

**Procedure/Steps**:

1. Go to the IRS Web site <http://www.irs.gov/pub/irs-pdf/p564.pdf> and read information on mutual fund tax treatment. Alternatively, log on to <http://www.fairmark.com/mutual/> to gather information about taxes on mutual funds.
2. Use the First-In, First-Out (FIFO) method to calculate the tax liability for the portfolio.
3. Calculate the average per share price.

**Outcome**:

* You should be able to calculate the mutual fund taxability by using the FIFO method.
* You should be able to calculate the differences between sales prices and tax basis for calculating the tax liability of the mutual funds.

**Lab 3**

**Educational Planning**  
  
**Hardware/Software Setup Required**:  
Financial calculator  
  
**Problem Description**:  
Gloria and Mike Harper are the proud parents of four-year-old twin girls, Janice and Leah. The Harpers want to set up two separate accounts, one for each daughter. They estimate the cost per year of college at their state university will run at $9,000 in "today's dollars." They believe they can achieve 10 percent on their investments over that time. They expect inflation to run at 5 percent. What total amount do they need to put away today to fund for Janis and Leah's college costs when they turn 17 years old?  
  
**Procedure/Steps**:

1. Calculate today's dollars.
2. Find out the future value of college education when it is time for one of the girls to go to school.
3. "Inflation adjust" those dollars forward for the four years of college.
4. Deflate the future value of four years of college over the remaining 13 years until college.
5. Explain the steps of the calculations involved.

**Outcome**:

* You should be able to calculate today's dollars.
* You should be able to calculate the future value of the college education.

**Lab 4**

**Time Value of Money for Retirement and Social Security Benefit Timing**

**Hardware/Software Setup Required**:

Financial calculator

**Problem Description 1**:

Mike wants the equivalent of $500,000 in current dollars when he retires in 20 years. He feels he can make 7 percent after tax on his investments. He expects inflation to be 3 percent over the 20-year preretirement period. If he deposits $25,000 at the end of each year, what will be the end result?

**Procedure/Steps**:

1. Calculate the future value of Mike’s goal.
2. Calculate the inflation-adjusted future value of Mike’s goal.

**Outcome**:

* You should be able to calculate current dollars.
* You should be able to calculate the time value of money regarding retirement needs.
* You should be able to calculate the impact of inflation on the retirement investment.

**Problem Description 2**:

Stephanie Williams turned 62 today. She can either receive $1,031 a month from Social Security now or she can wait until she is 65 years old. At that time, she will be able to receive $1,400 a month. At what age does Stephanie break even?

**Procedure/Steps**:

1. Calculate the number for (X) months.
2. Calculate the number of years to reach the breakeven point.
3. Explain the steps of the calculations used.

**Outcome**:

* You should be able to calculate the number for (X) months.
* You should be able to calculate the number of years to reach the breakeven point.

**Lab 5**

**Social Security Benefit Calculation**

**Hardware/Software Setup Required**:  
Financial calculator

**Problem Description**:  
Log on to <http://www.ssa.gov/planners/calculators.htm>.   
  
Use the online calculator to calculate the Social Security benefit for two people with the following information:

|  |  |  |
| --- | --- | --- |
|  | Jacob | Kate |
| Date of birth | 1/1/60 | 1/1/80 |
| Age of retirement | 67 with 0 months | 69 with 0 months |
| What dollars | Today’s dollars | Today’s dollars |
| What dollars | Also do future dollars | Also do future dollars |
| Annual earnings |  |  |
| 1960–1980 | 0 | 0 |
| 1980–1985 | 24,000 | 0 |
| 1985–1990 | 64,000 | 0 |
| 1990 | 70,000 | 0 |
| 91 | 74,000 | 0 |
| 92 | 78,000 | 0 |
| 93 | 82,000 | 0 |
| 94 | 86,000 | 0 |
| 95 | 89,000 | 0 |
| 96 | 92,000 | 0 |
| 97 | 96,000 | 0 |
| 98 | 100,000 | 0 |
| 99 | 105,000 | 0 |
| 2000 | 108,000 | 0 |
| 01 | 110,000 | 0 |
| 02 | 112,000 | 60,000 |
| 03 | 114,000 | 64,000 |
| 04 | 116,000 | 68,000 |
| 05 | 116,500 | 72,000 |
| 06 | 118,000 | 74,000 |
| 07 | 123,000 | 75,000 |
| 2008 and late | 130,000 | 80,000 |

Calculate the amount of money they need to have saved so that their monthly retirement income is double their estimated monthly retirement benefit in future dollars. Assume that any retirement savings will earn 8 percent, and they will need the retirement benefit for 20 years.

**Procedure/Steps**:   
Calculate the benefit and use the time value of money to identify how much more the individuals need to save so that they are financially sound when they retire.

**Outcome**:

* You will be able to calculate Social Security benefits in today and future-day dollars.
* You will be able to calculate the amount the individuals will need to save for retirement over and above the Social Security benefits.

**Lab 6**

**Gross Estate Calculation I**

**Hardware/Software Setup Required**:

Financial calculator

**Problem Description**:

Cesar Gonzales is married and has an interest in the following assets:

* $350,000 in a home; in tenancy with rights of survivorship with his wife
* Land worth $200,000; tenancy in common with his sister
* $300,000 market value of stock in his name only
* $250,000 in trust with a general power of attorney

He also has a $1,000,000 life insurance policy each for himself and his wife with their only son, who is 25 years old, as their beneficiary.

If he died, how much would be included in his estate? In addition, calculate the estate tax his wife will have to pay. If Cesar bought the stock when its value was $7.50/share, what will be his wife’s tax liability if she sells the stock at the current value $50/share, assuming he dies today? What would be their son’s tax liability after their deaths and what happens if both Cesar and his wife die at the same time?

**Procedure/Steps**:

1. Calculate the gross estate.
2. Explain the steps of the calculations used.

**Outcome**:

* You should be able to calculate a gross estate.
* You should be able to discern the estate tax handling of property types.

**Lab 7**

**Gross Estate Calculation II**

**Hardware/Software Setup Required**:

Financial calculator

**Problem Description**:

Jean and Walter own the following property interests:

Life Insurance (Walter) (cash value) 0

          (death benefit) $200,000

Common Stock (Walter) $100,000

Mutual Funds (Jean) $200,000

Checking/Money Market (Joint) $50,000

IRA (Jean) $200,000

IRA (Walter) $200,000

Two Cars (Joint) $50,000

Residence (Joint) $300,000

1. If Walter were to die first, what would be the value of his gross estate?
2. If Jean dies first, what would be the value of her gross estate?

**Procedure/Steps**:

1. Calculate the gross estate in both cases.
2. Explain the steps of your calculations.

**Outcome**:

* You should be able to calculate a gross estate.
* You should be able to discern the estate tax handling of property types.

**Deliverables and Format**:

Submit your calculations in an Excel worksheet and the explanations in a Word document.