1. **Explain in your own words, what did you understand by ‘model’?**

* Models are convenient simplifications of reality.
* A statistical model for a set of variables is a simple approximation for the true relationship among those variables in the population.
* A model has a framework that imposes a structure for the relationship among the variables.

1. **Set up a hypothetical economy with some sellers and buyers. Trade some hypothetical good with your chosen price level and explain how the three approaches to calculating GDP are equivalent. Example that was explained in class will be very helpful for this question.**

* **GDP = Total National Income + Sales Taxes + Depreciation + Net Foreign Factor Income**

where:

Total National Income = Sum of all wages, rent, interest, and profits

Sales Taxes = Consumer taxes imposed by the government on the sales of goods and services

Depreciation = Cost allocated to a tangible asset over its useful life

Net Foreign Factor Income = Difference between the total income that a country’s citizens and companies generate in foreign countries, versus the total income foreign citizens and companies generate in the domestic country

* **Formula for Income Approach**

TNI=Sales Taxes+Depreciation+NFFI

where:TNI=Total national income, NFFI=Net foreign factor income

* **Formula for Expenditure Approach​**

GDP=C+I+G+(X−M)

where: C=Consumer spending on goods and services, I=Investor spending on business capital goods, G=Government spending on public goods and services, X=exports, M=imports

* **Let us assume an example according to what explained in class,**

Farmer --> peanut,

seller --> peanut butter,

govt, and consumer(so taxes will be there) so peanut and peanut butter both are selling,

the farmer sells peanut to C=200k, B=300k,

farmer expenditures as wages = 200k,

taxes =80k,

seller sells peanut butter to C=600k,

seller expenditures as wages= 100k,

taxes=100k,

farmer=300k(buy peanut)

product = 200k+600k(we cannot add 300k as it is intermediate good)= 800k

income = wages(200k+100k)+taxes(100k+100K)+profit(both(200k+200k))=800k

expenditures = consumers spent (200k+600k) = 800k

1. **Differences between nominal and real GDP.**

* Real GDP is an inflation-adjusted calculation that analyses the rate of all commodities and services manufactured in a country for a fixed year. It is expressed in foundation year prices and referred to as a fixed cost price.
* Nominal GDP reflects current GDP at current prices. Conversely, Real GDP reflects current GDP at past (base) year prices.