Hello dear professors, we are group 17 and our project is called ISM. In this presentation, we will talk about the system design and the technical explanation of use cases.

We Have four members in our team. They are ……

Before I start, I will give a brief introduction of our project.

The background of this project is based on telemarketing data from the Bank of Portugal, which we use to improve marketing efficiency through data analysis and machine learning. Through data analysis, we understand the needs of customers and predict whether users are likely to buy savings products through machine learning and according to the social and economic situation of customers and the time.

In this program, we use streamlit. [Streamlit](https://www.streamlit.io/) is an open-source Python library that makes it easy to create and share beautiful, custom web apps for machine learning and data science.

For the system design, we design three pages to show our system.

Next I give two cases from the testing dataset.

1 - age (numeric)  
2 - job : type of job (categorical: 'admin.','blue-collar','entrepreneur','housemaid','management','retired','self-employed','services','student','technician','unemployed','unknown')  
3 - marital : marital status (categorical: 'divorced','married','single','unknown'; note: 'divorced' means divorced or widowed)  
4 - education (categorical: 'basic.4y','basic.6y','basic.9y','high.school','illiterate','professional.course','university.degree','unknown')  
5 - default: has credit in default? (categorical: 'no','yes','unknown')  
6 - housing: has housing loan? (categorical: 'no','yes','unknown')  
7 - loan: has personal loan? (categorical: 'no','yes','unknown')  
# related with the last contact of the current campaign:  
8 - contact: contact communication type (categorical: 'cellular','telephone')  
9 - month: last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')  
10 - day\_of\_week: last contact day of the week (categorical: 'mon','tue','wed','thu','fri')  
11 - duration: last contact duration, in seconds (numeric). Important note: this attribute highly affects the output target (e.g., if duration=0 then y='no'). Yet, the duration is not known before a call is performed. Also, after the end of the call y is obviously known. Thus, this input should only be included for benchmark purposes and should be discarded if the intention is to have a realistic predictive model.  
# other attributes:  
12 - campaign: number of contacts performed during this campaign and for this client (numeric, includes last contact)  
13 - pdays: number of days that passed by after the client was last contacted from a previous campaign (numeric; 999 means client was not previously contacted)  
14 - previous: number of contacts performed before this campaign and for this client (numeric)  
15 - poutcome: outcome of the previous marketing campaign (categorical: 'failure','nonexistent','success')  
# social and economic context attributes  
16 - emp.var.rate: employment variation rate - quarterly indicator (numeric)  
17 - cons.price.idx: consumer price index - monthly indicator (numeric)  
18 - cons.conf.idx: consumer confidence index - monthly indicator (numeric)  
19 - euribor3m: euribor 3 month rate - daily indicator (numeric)  
20 - nr.employed: number of employees - quarterly indicator (numeric)