大家好，我是第一组的董自经，今天由我向大家汇报cpm

cpm全称 central path method 用最长的路径反映出最短的时间消耗

我们的汇报分为四个部分：简介样本项目，活动的列表以及关系，CPM图的绘制以及Gantt图

为了便于大家理解，我们选择的活动是大家所熟知的英语文化节

我们可以将这个活动分为以下活动：确定文化节的主题和日期，组织策划小组会议，招募志愿者和参与者，决定项目列表，安排场地和空间，公开宣传活动，准备材料，最后举办活动，把他们分别编号为1到8

在这其中，确定主题、组织会议、公开宣传活动以及举办活动都花费一天的时间，决定活动列表、准备材料各自会占用两天的时间，持续招募3天志愿者，用时四天去安排场地

这些活动中，确定主题和招募志愿者是没有先决活动的，可以直接开始进行，在确定了主题之后召开会议讨论并决定文化节的活动列表，之后就可以安排场地并公开活动了，在准备好材料之后，我们才可以举办文化节

上节课老师给了一个基础公式，我们总结出一个二级公式，用这个公式可以更好地帮助我们完成cpm图

这是项目的cpm图，一开始只有1和4能够开始，完成1后就可以开始活动2，之后按部就班的进行活动3，活动3结束之后可以同时开展活动5和活动6，之后就是活动7，现在我们要找到活动8的最早开始时间，用到上面的公式，ES=max(pre\_activities.EF)，我们可以得出最早开始时间是8。

现在我们开始推最晚结束时间和slack time，从活动8开始，活动5,7,4的最晚结束时间都是8，减去他们的持续时间得到最早开始时间，之后推出活动6的最晚开始时间为5,现在再用到上面的公式LF=min(sub\_activities.LS)，得出3的最晚开始时间为4，之后可以按部就班的求出2和1 的最晚开始时间。

这就是完整的cpm图

这是活动的gantta图，可以直观地看出什么活动之间有兼容性，可以同时实行。

这就是我们汇报总的内容，大家有问题吗？没有的话，谢谢大家聆听

Hello everyone, I am Dong Zijing from the first group. Today, I will report on CPM to everyone

The full name of CPM is central path method, which reflects the shortest time consumption with the longest path

Our report is divided into four parts: introduction to example projects, table and relationships of activities, creation of CPM diagrams, and Gantt diagrams

In order for everyone to understand, the activity we chose is the well-known English cultural festival

We can divide this event into the following activities: now that we have 8 activities, we could categorize them into numbers 1 to 8

Among them, it separately takes one day to determine the theme, organize meetings, publicize events, and hold events. Determine the activities list and preparing materials will each take up two days. Volunteers will be recruited continuously for three days, and it will take four days to arrange the venue

Among these activities, there is no pre\_activities for determining the theme and recruiting volunteers which we can start directly. After determining the theme, we can hold a meeting to determine the list of activities for the cultural festival. Then, we can arrange the venue and make the events public. After preparing the materials, eventually we can hold the cultural festival

Last class, our teacher gave us two basic formulas, and we summarized a second level formula. Using this formula can better help us complete the CPM diagram

This is the CPM diagram of the project. At the beginning, only 1 and 4 can start. After completing 1, Activity 2 can start. Then, Activity 3 can be carried out step by step. After Activity 3 is completed, Activities 5 and 6 can be carried out, followed by Activity 7. Now we need to find the earliest start time for Activity 8. Using the formula above, ES=max (pre activities. EF), we can conclude that the earliest start time is 8, plus 1 and wo could calculate the total time as 9

Now we start to calculate the latest start time and slack time. Starting from Activity 8, the latest start time for Activities 5, 7 and 4 are all 8. Subtract their duration to obtain the their earliest start time. Then, we calculate the latest start time for Activity 6 as 5. Now, using the formula LF=min (sub activities. LS) above, we can calculate the latest start time for 3 as 4. Then, we can gradually calculate the latest start times for 2 and 1.

This is the complete CPM diagram

What is presently showing the Gantta diagram of the activity, which can visually show which activities are compatible and can be carried out at the same time.

That’s all for our report. Does anyone have any questions? If not, thank you all for listening