Homework 10

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"I pledge my honor that I have abided by the Stevens Honor System." - JM, EO, DB, MM

Summary:
For this assignment, we calculated how many weeks it would take to clear a TR backlog given different conditions. First, we used the information given to determine how many TR arrivals there would be each week. Then, for two different situations, we used information about the programmers to determine how long it would take to clear the backlog. We found that in the first situation, all defects were cleared after week 13, and in the second situation, all defects were cleared after week 12. This assignment allowed for the group to investigate the measurement and estimation techniques of in process metrics. We found the assignment to be insightful as we used historical data to evaluate two different scenarios of a project which we can easily apply to a real life situation.

Assume you are the project manager for a software development project. You want to have a dashboard to see how things are going.

Assuming the following in-process metric data, create a Trouble Report Arrival Plan:

- **Total size of software: 10K Lines of Code**
- **Integration Plan:**

Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Turnover (KLOC)	**0**	**0.1**	**0.3**	**0.4**	**0.2**	**2.2**	**2.5**	**4.3**	**0**

- **You expect TR arrival to be algorithmically: 10%, 80%, 10% per week after each weekly turnover**
- **You expect to find 10 defects per KLOC before you ship**

Below we can see the Trouble Report Arrival Plan the group created. We have also submitted an excel spreadsheet to show our calculations and how we arrived at this plan.

Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Prod 1- Integration Rate	0	0.1	0.3	0.4	0.2	2.2	2.5	4.3	0	0	0	0	0
TR Arrivals Per Week	0	0	0	1	3	4	4	20	27	37	4	0	0

The TR Arrival is multiplied by the number of KLOC in that week and by the number of defects per KLOC

Backlog per person = Defect arrival - Bug Fixes + Backlog per person in previous week

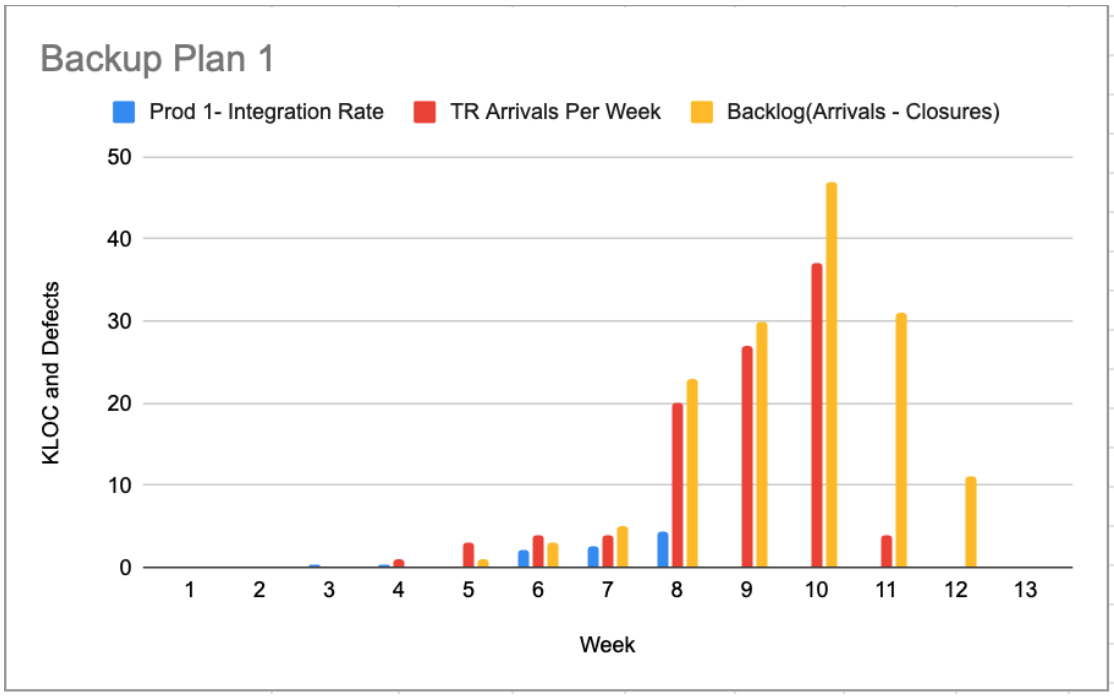
Bug Fixes = (Total number of programmers) * (percentage of programmer's fixing the bugs)* (TRs fixed by programmer in week)

Create a Backlog Plan

- **Expectation is that each programmer can fix 2 TRs per staff week if they work full time at it. You have 10 programmers on the job.**
- **Plan on them working 10% on fixing TRs before final turnover date, 100% after final turnover date (starting week 9)**
- **When will the backlog be cleared out?**

The Backlog for plan 1 will get cleared at the 13th week as per the calculation and the chart shown below. We have submitted an excel spreadsheet showing the equations for how we arrived at these numbers.

Backlog Plan 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Possible Closures Per Week	2	2	2	2	2	2	2	2	20	20	20	20	20
Backlog(Arrivals - Closures)	0	0	0	0	1	3	5	23	30	47	31	11	0



Create a 2nd Backlog Plan

- **Plan on 10% fixing until week 6, when 50% start to fix troubles, then 100% after final turnover on week 8**
- **When will the backlog be cleared out?**

For the 2nd Backlog Plan, the backlog will be cleared at the 12th week as per the calculation and the chart shown We have submitted an excel spreadsheet showing the equations for how we arrived at these numbers.

Backlog Plan 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Possible Closures Per Week	2	2	2	2	2	10	10	10	20	20	20	20	20
Backlog(Arrivals - Closures)	0	0	0	0	1	0	0	10	17	34	18	0	0