Our 5W2H method for Prize Bonds

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| What? | What will be done? Action steps, description.  Using Machine Learning a field of computer science and Artificial Intelligence that uses statistical techniques to give computer systems the ability to "learn" through Pattern recognition focuses on the recognition of patterns and regularities in [data](https://en.wikipedia.org/wiki/Data), although it is in some cases considered to be nearly synonymous with machine learning. Pattern recognition systems are in many cases trained from labeled "training" data also known as [supervised learning](https://en.wikipedia.org/wiki/Supervised_learning). The terms pattern recognition, machine learning, [data mining](https://en.wikipedia.org/wiki/Data_mining) and [knowledge discovery in databases](https://en.wikipedia.org/wiki/Knowledge_discovery_in_databases) (KDD) are hard to separate, as they largely overlap in their scope (e.g., progressively improve performance on a specific task) with data, without being explicitly programmed.  We need to be able to give our program numerical historical data of previous Draws.  The present data comprises of Denomination of 40000 Prize Bonds. Some of the latest draws have not been given and are kept readily available as ‘hold over data’. |
| Why? | Why will it be done? Justification, reason.  Prize Bonds are a National Scheme of the Government of Pakistan to inculcate savings habit in the citizens and also to provide opportunities for them to grow financially secure. Unfortunately, due to play of probability theory the rich have more probability of winning Prize Bond numbers as they can purchase more  Prize Bonds and hence increase their chances of winning more Prize Bonds winning numbers. The Prize Bonds are in denominations of 40000, 25000,15000,7500 for the already rich. Then for the ‘have-nots’ they have denominations of 1500,750,200 and 100. The Prizes are picked from 1 to 999999 range from 1st (Jackpot) and 2nd, 3rd and 4th (also smaller Jackpots) are known as Second Prizes then 1696 prizes numbers consist of common draw of low amount prizes.  The proponent of this project humbly states that the Prize money consistently generated will definitely result in some monetary gain to himself but his sublime motive is to alleviate the abject poverty that so encompasses around him. Yes, it is the duty of the State but it is constraint by its manifesto and political wrangling that the poor man is neglected completely. |
| Where? | Where will it be done? Location, area.  Draws are carried out in major cities of Pakistan like Lahore, Karachi, Multan etc. |
| When? | When will it be done? Time, dates, deadlines.  Typically Draws are carried out cyclically on the first working day of the quarter falling for each denomination of 40000, 25000,15000,7500 like for say 40000 the last draw was held on 1st March 2018 therefore the next draw for 40000 will be held on 1st working day of June 2018 and so on.  For the lower denominations of 1500,750,200 and 100 it is the 15th day of the quarter. |
| Who? | Who will do it? Who’s responsible for it?  The draws are very transparently held in the Central Bank known as the State Bank of Pakistan through handle drawn machine registers crunching numbers. When the handle is drawn down manually by a deaf and dumb school boy the display churns out a six digit number. The number is manually noted on a blackboard in the sight of all the audience who prefer to attend the draw. The first number to be churned out is the First winning Prize and the Second, Third and Fourth drawn numbers are the Second winning Prize after which all 1696 prize winning numbers carry smaller prizes.  The whole process is recorded under CCTV and the media is also present to make it even more transparent. |
| How? | How will it be done? Method, process.  Microsoft Azure Machine Learning Studio is a collaborative, drag-and-drop tool you can use to build, test, and deploy predictive analytics solutions on your data. Tutorials, videos, and example models show you how to use Studio to build and deploy machine learning models.  Using an interactive, visual workspace, you drag-and-drop *datasets* and analysis *modules* onto an interactive canvas. You connect them together to form an *experiment* that you run in Machine Learning Studio. You *create a model*, *train the model*, and *score and test the model*. Epochs and Iterations fine tune the model to give the desired results. You choose the best algorithm to run your experiments in our case it will be Neural Networks. Then R scripts can also be used to evaluate the model. |
| How much? | What will it cost to make? Costs or expenses involved.  Honestly speaking the Azure ML Studio at this moment is free and readily available for everyone.  The actual cost can be the expertise the Data Scientist is contributing to the project. |