Q1.

**3.1 Performance measures**

Let *{Q1….,Q4}* be the set of query images. For the *i-th* query **Qi**, let ***I1(i),….,Ia1(i****)* are correct answers and rank*(Ij(i))* is the rank of the *Ij(i)* in the result. We use three performance mesures [7]:

**(3) *Recall* vs. Scope. For query *Qi* and scope *S(S>0):***

**recall r*= |{Ij(i) | rank(Ij(i)) ≤ S}*** *l* ***ai.***

*Q2****.***

***Challenges :***

***Physical:*** Saena primarily faces the physical challenges; as a traveling merchant’s daughter, she has learned to fight; she faces the Dark Fae but suffers weakness in her mental defense against their magic; Aerim learns to fight from Saena and helps her learn to defend herself mentally.

***Magical:*** Aerim is surprisingly resilient to magic and discovers his growing powers as he and Saena venture into the Forest to investigate their foe and find the root to the decay of the land; he must ultimately confront the truth that his mother was a Dark Fae and was responsible for introducing a sickness to the human race.

Q4.

**Sales Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Region | District | Store Name | Employee  Name | Customer  Count | Cost | Sale |
| Ali | **Total** |  |  | **153** | **9724** | **13149** |
|  | **± Ahmed** | **Total** |  | **153** | **9724** | **13149** |
| **± Imtiaz** |  |  |  |  |
|  |  | **Ayaz** | **53** | **611** | **830** |
| **Wajahat** | **40** | **731** | **1429** |
| **Maaz** | **60** | **8382** | **10890** |
| Total |  |  |  | **153** | **9724** | **13149** |

Q5.

***Since they are still preserved in the rocks for us to see, they must have been formed quite recently, that is, geologically speaking. What can explain these striations and their common orientation?*** ***Did you ever hear about the Great Ice Age or the Pleistocene Epoch[[1]](#footnote-1)? Less than one million years ago, in fact, some 12,000 years ago, an ice sheet many thousands of feet thick rode over Burke Mountain in a southeastward direction. The many boulders frozen to the underside of the ice sheet tended to scratch the rocks over which they rode. The scratches or striations seen in the park rocks were caused by these attached boulders. The ice sheet also plucked and rounded Burke Mountain into the shape it possesses today.***

***One dollar and eighty-seven cents[[2]](#footnote-2). That was all. And sixty cents of it was in pennies. Pennies saved one and two at a time by bulldozing the grocer and the vegetable man and the butcher until one’s cheeks burned with the silent imputation of parsimony that such close dealing implied. One dollar and eighty-seven cents. And the next day would be Christmas[[3]](#footnote-3)...***

***Do you think you're living an ordinary life? You are so mistaken it's difficult to even explain. The mere fact that you exist makes you extraordinary. The odds of you existing are less than winning the lottery[[4]](#footnote-4), but here you are. Are you going to let this extraordinary opportunity pass?***

Q6. Don't forget that gifts often come with costs that go beyond their purchase price. When you purchase a child the latest smartphone, you're also committing to a monthly phone bill. When you purchase the latest gaming system, you're likely not going to be satisfied with the games that come with it for long and want to purchase new titles to play. When you buy gifts it's important to remember that some come with additional costs down the road that can be much more expensive than the initial gift itself.



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1. The Pleistocene Epoch is typically defined as the time period that began about 2.6 million years ago and lasted until about 11,700 years ago. [↑](#footnote-ref-1)
2. The cent is a monetary unit of many national currencies that equals ​1⁄100 of the basic monetary unit. [↑](#footnote-ref-2)
3. Christmas is an annual festival commemorating the birth of Jesus Christ, observed primarily on December 25 as a religious and cultural celebration among billions of people around the world. [↑](#footnote-ref-3)
4. A lottery is a form of gambling that involves the drawing of numbers at random for a prize [↑](#footnote-ref-4)