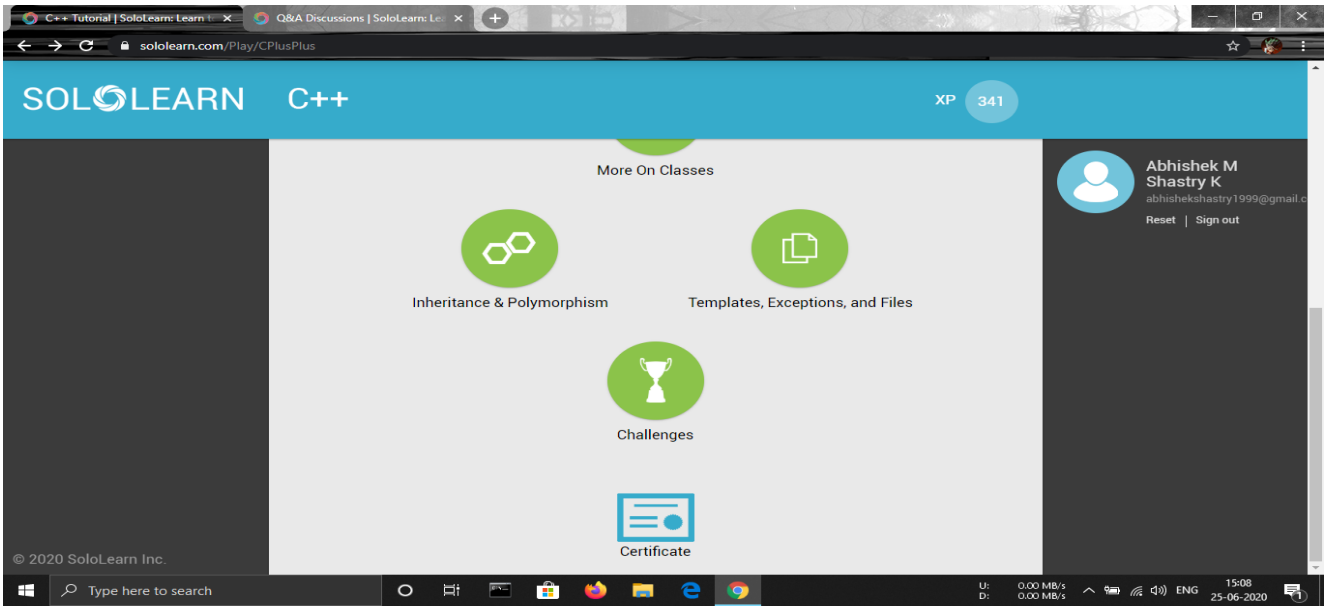
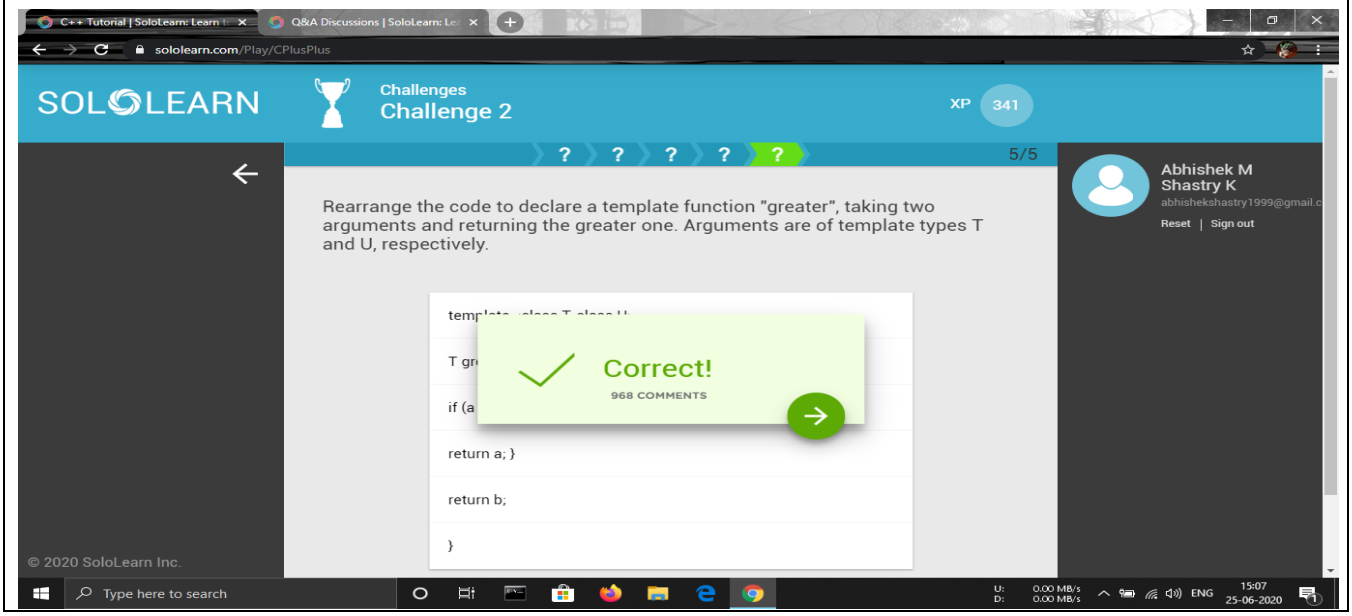
DAILY ASSESSMENT REPORT

Date:	**25/06/2020**	**Name:**	**Abhishek M Shastry K**
Course:	**C++ Tutorial by SOLOLEARN**	**USN:**	**4AL17EC002**
Topic:	**1] Inheritance & Polymorphism 2] Templates, Exceptions, and Files 3] Challenges**	**Semester & Section:**	**6th 'A'**
Github Repository:	**AbhishekShastry-Courses**		

FORENOON SESSION DETAILS

Image of session





Report

Inheritance & Polymorphism

- Inheritance is one of the most important concepts of object-oriented programming.
- Inheritance allows us to define a class based on another class. This facilitates greater ease in creating and maintaining an application.
- The class whose properties are inherited by another class is called the Base class. The class which inherits the properties is called the Derived class. For example, the Daughter class (derived) can be inherited from the Mother class (base).
- The derived class inherits all feature from the base class, and can have its own additional features.
- Public members may be accessed from anywhere outside of the class, while access to private members is limited to their class and friend functions. A protected member variable or function is very similar to a private member, with one difference - it can be accessed in the derived classes.
- When inheriting classes, the base class' constructor and destructor are not inherited. However, they are being called when an object of the derived class is created or deleted.
- The word polymorphism means "having many forms". Typically, polymorphism occurs when there is a hierarchy of classes and they are related by inheritance. C++ polymorphism means that a call to a member function will cause a different implementation to be executed depending on the type of object that invokes the function.
- Polymorphism can be demonstrated more clearly using an example: Suppose you want to make a simple game, which includes different enemies: monsters, ninjas, etc. All enemies have one function in common: an attack function. However, they each attack in a different way. In this situation, polymorphism allows for calling the same attack function on different objects, but resulting in different behaviors.
- To be able to call the corresponding attack() function for each of the derived classes using Enemy pointers, we need to declare the base class function as virtual. Defining a virtual function in the base class, with a corresponding version in a derived class, allows polymorphism to use Enemy pointers to call the derived classes' functions.

Templates, Exceptions, and Files

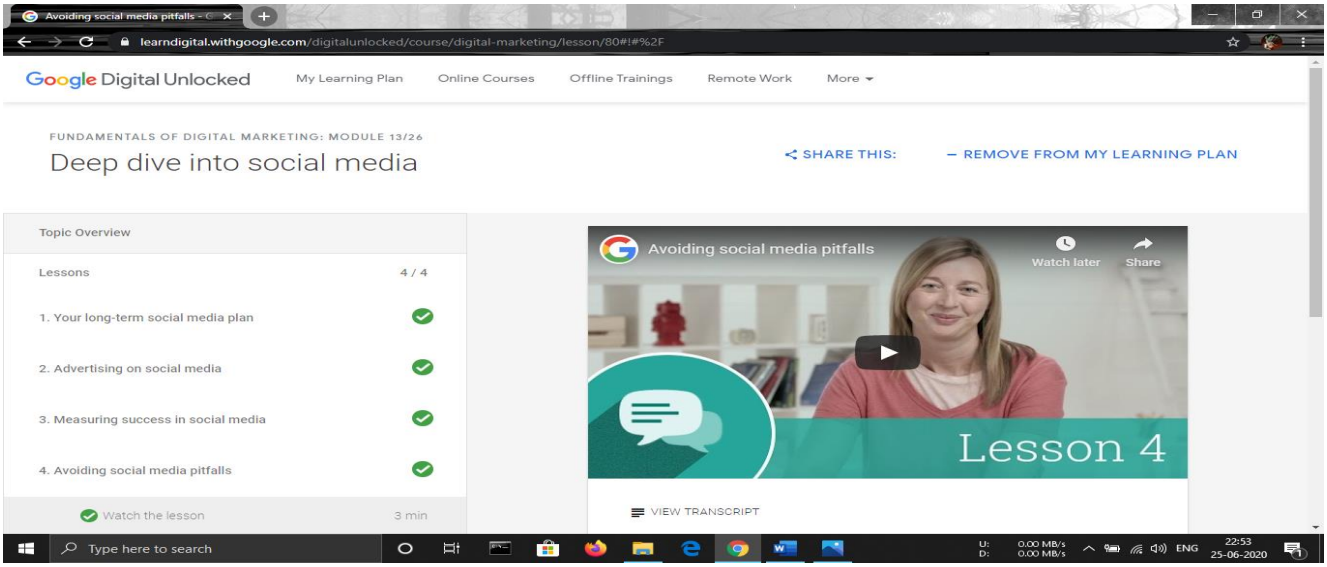
- Functions and classes help to make programs easier to write, safer, and more maintainable. However, while functions and classes do have all of those advantages, in certain cases they can also be somewhat limited by C++'s requirement that you specify types for all of your parameters.
- With function templates, the basic idea is to avoid the necessity of specifying an exact type for each variable. Instead, C++ provides us with the capability of defining functions using placeholder types, called template type parameters.
- Function templates also make it possible to work with multiple generic data types. Define the data types using a comma-separated list.
- A specific syntax is required in case you define your member functions outside of your class - for example in a separate source file. You need to specify the generic type in angle brackets after the class name.
- In case of regular class templates, the way the class handles different data types is the same; the same code runs for all data types. Template specialization allows for the definition of a different implementation of a template when a specific type is passed as a template argument.
- Problems that occur during program execution are called exceptions. In C++ exceptions are responses to anomalies that arise while the program is running, such as an attempt to divide by zero.
- Exception handling is particularly useful when dealing with user input. For example, for a program that requests user input of two numbers, and then outputs their division, be sure that you handle division by zero, in case your user enters 0 as the second number.
- Three new data types are defined in **fstream**:
    - ✓ **ofstream**: Output file stream that creates and writes information to files.
    - ✓ **ifstream**: Input file stream that reads information from files.
    - ✓ **fstream**: General file stream, with both ofstream and ifstream capabilities that allow it to create, read, and write information to files.
- Under certain circumstances, when you don't have file permissions, the open function can fail. The **is_open()** member function checks whether the file is open and ready to be accessed.

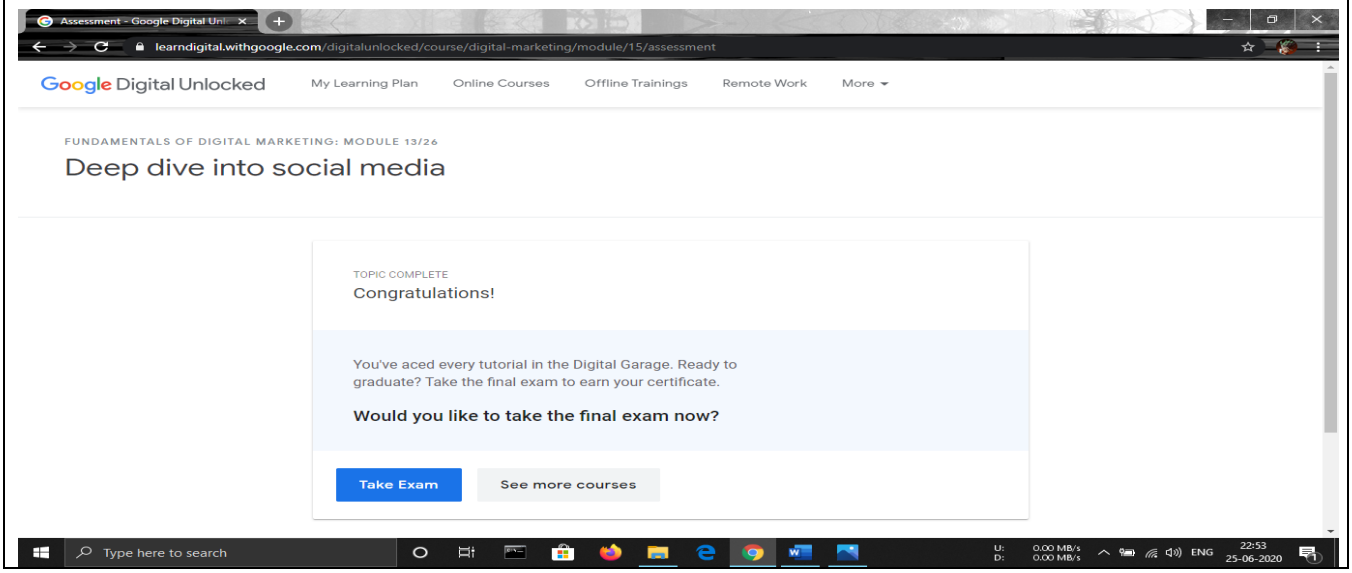
CERTIFICATE - C++ Tutorial by SOLOLEARN

Date:	**25/06/2020**	**Name:**	**Abhishek M Shastry K**
Course:	**Google Digital Unlocked: Fundamentals of digital marketing**	**USN:**	**4AL17EC002**
Topic:	**1] Deep dive into social media** • **Your long-term social media plan** • **Advertising on social media** • **Measuring success in social media** • **Avoiding social media pitfalls**	**Semester & Section:**	**6th 'A'**
Github Repository:	**AbhishekShastry-Courses**		

AFTERNOON SESSION DETAILS

Image of session





Report

Your long-term social media plan

- It's not easy to keep everything up to date, reply and interact with all your connections, or come up with a steady stream of ideas for unique, interesting things to be posting all the time across a number of different networks. Don't worry.
- The key is to sit down and sketch out a formal plan for what you want to post, when you want to post it, where it makes sense to post, and even who at your business should be posting.
- Well, if you just assume that you'll have enough free time to come up with creative, compelling posts "on the spot," the odds are that you'll end up disappointed. Life gets in the way, other things take priority and, without a plan, your social pages might end up being silent for too long, or your posts might be lower quality, because you're feeling pinched for time.
- And finally, don't forget about the why. Why are you posting all of these updates? Which business goals are these posts meant to support? If social media is all about raising awareness for you, make sure your posts are designed to do that. On the other hand, if social media is more of a way for you to deepen relationships with your existing fans and customers, your posts are going to look quite different. There's no right or wrong approach, but again: make sure you know why you're sharing what you're sharing.

Advertising on social media

- Well, social media sites can help you do this and more. That's because social media sites often know a lot about their users. Think about your Facebook or Google+ page, for example. Have you included your age or gender on your personal social media pages? Many people do, and that's why social media sites are able to offer businesses the ability to reach such specific groups.
- Social media sites provide great options for targeting ads or content to very specific audiences, and that's a great way to make sure we're investing our marketing budget wisely. Now, let's talk about how paying to promote your messages to social network users can complement your other efforts on social.
- Building up your presence on social networks is usually a gradual process. Over time, you post interesting, unique content, and gain more and more visibility.

Measuring success in social media

- Let's assume our vintage clothing business has established accounts on a few social networks - Facebook, Twitter, and maybe even some smaller, fashion-related social networks.
- First, it's important to take a look at the social networks themselves. When you log in, many provide data about what's happening on those networks. For example, you might be able to get reports about how many people you're connected with and how that's been trending over time, which of your posts are getting shared or interacted with the most, or even who your biggest fans might be.
- By looking at the data and reports available in many social networks, you can learn a lot about who your connections are, how they behave, and how they consume or interact with the content you're providing.
- But logging into every single network and looking at the data and reports in each one separately can be time-consuming and tricky. Remember those tools that can help you schedule your posts and consolidate all of your logging in to just one place? Well, many of those tools can also track and provide data that can compare the different networks against each other, and give you all that reporting in one place.

Avoiding social media pitfalls

- Be understanding, be considerate, but most of all be consistent. Follow up on complaints, and give people the information they ask for. Negative feedback doesn't necessarily have to end in disaster. It can be an opportunity to show your customers - and everyone else who might be watching - that you truly want to help them.
- Don't spread yourself too thin on social media. With all the networks out there, there are almost unlimited opportunities to talk to customers, but those conversations take time.
- If you're not careful, you'll get overwhelmed trying to juggle too many sites. Focus on the ones that matter most and branch out as it makes sense and as you can handle it.
- Finally, it can't be emphasized enough that you'll want to measure what your efforts are actually doing for you. Using social media and analytics tools, you can see firsthand how your social media efforts are contributing to your bottom line, and learn which are more valuable than others.