

Programmer Analyst Trainee

Internship report submitted in partial fulfillment of the requirement for the degree of
Bachelor of Technology

In

Computer Science and Engineering

By

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UNDER THE SUPERVISION OF

Mr. Akshat Jain (Cognizant)

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Finally, I must acknowledge with due respect the constant support and patience of my parents.

Kartik Bohra

CANDIDATE'S DECLARATION

I hereby declare that the work presented in this report entitled "PROGRAMMER ANALYST TRAINEE" in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering/Information Technology submitted in the department of Computer Science & Engineering and Information Technology, Jaypee University of Information Technology Waknaghat is an authentic record of my own work carried out over a period from February 2022 to August 2022 under the supervision of Akshat Jain. (Coach, Human Resource Department, Cognizant).

The matter embodied in the report has not been submitted for the award of any other degree or diploma.

Kartik Bohra (181289)

This is to certify that the above statement made by the candidate is true to the best of my knowledge.

Dr. Rakesh Kanji

Assistant Professor

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Mr. Akshat Jain

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Human Resource Department

Cognizant Technology Solutions

PROJECT REPORT UNDERTAKING

I, Mr. Kartik Bohra, Roll No. 181289, Branch - Computer Science and Engineering is doing my internship with Cognizant.

As per procedure I have to submit my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So, I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.

Name: Kartik Bohra

Roll No.: 181289

ABSTRACT

At GenC program in Cognizant, we are divided into certain domains. Each domain has a specific amount of training period varying from 12 weeks to 19 weeks. Internship includes various events such as educational workshops, webinars, Udemey courses, and group work assignments.

A large IT company based in the United States and India Cognizant employed a large number of Indians last year, and it now employs about 3 lakh employees. The Cognizant Corporation also recruits and hires international workers from all around the globe.

Cognizant provides services to a large number of clients in the IT industry, they also have ties with one of the fastest growing companies. Work culture is just as professional as expected.

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CHAPTER 1: ORGANIZATION

1.1 Background:

After the end of 7th semester, various company visited to our college for the placement of the student, one such company was cognizant, due to my good fortune, I was selected for Gen-C profile, after selected as Gen-C, I was offered a internship program by the cognizant before the full time role and completing internship is necessary for the full time role in the cognizant. The internship was of around 12 weeks containing various sessions, webinar, online UdeMy courses, assessment and project.

Cognizant is one of the top IT company in the India, and major IT company in US. Cognizant employees are around 3 lakhs in number and recruit around 20 thousand fresh people every year from India. Cognizant also hires from different country across the globe.

Cognizant offers various role in the company like develop, Designer, Tester and Manager in the company, but, before becoming the associate every person should complete the intern period and after the intern period there is one year of probation period in the company for the associate to join the company.

Cognizant also provide stipend during the internship period which is around 12 thousand per month to the interns pursuing internship in the internship.

But the total amount comes in persons hand is 10800 only because 1200 get cuts for the purpose related to the tax.

The internship period varies and depends on the roles, which the intern gets, like someone who got developer profile, for them internship period will be of around 4-5 months and for the quality insurance, it might vary from 5-6 month.

The domain allocation is random in the cognizant for the interns, but sometime it depends on the assimilation test also, the person who got higher marks in assimilation test, will have higher chances to get better profile or domain and it also depends on the first come first serve basis.

1.2 Mission, vision, values and objectives :

Mission - Cognizant mission is to train every fresh person who got selected in to the cognizant. Cognizant provide internship to every person who got selected in the cognizant.

Every year cognizant train college fresh out student in bulk number before giving them the associate role.

This recruit happens from all college over the India.

Cognizant spends much time, effort and money in training the intern before giving them the actual work and before them to work in the real environment.

Vision - The cognizant vision is to train every fresh out student recruited from the college no matter from which college the persons come.

Values -

The values of the organization are as follows:

▪ *Valuing People*

We believe that our success depends first and foremost on people. By respecting people in everything we do, we will develop and maintain high quality, mutually beneficial relationships with our clients, professional colleagues, referral sources, vendors, community members and each other.

▪ *Building Client Relationships*

We seek to earn long-term client loyalty by developing a deep understanding of each client's business and personal goals, by demonstrating unwavering reliability and integrity in our work and by acting as an independent and objective advisor to our clients.

▪ *Upholding Quality and Integrity*

We will maintain an environment where a commitment to quality, honesty, respect, fairness and professional ethics governs the actions and decisions of everyone within our firm.

Keys to Success:

- Complete the work with full honesty.
- Complete the work on time.
- Complete the assessment.
- Complete the project within schedule time.
- Try to learn as much as possible from the SME, Trainer, mentor.
- Open to learn anything taught.

Objectives:

The objectives of Cognizant are:

- Cognizant's single-minded mission is to dedicate our business process and technology innovation know-how, deep industry expertise and worldwide resources to working together with clients to make their businesses stronger.
- Growth - To expand the business at a rate that is both challenging and manageable, serving the market with innovation and adaptability.

1.3. Ice breaker

Week 1:

- Corporate induction.
- Talent Manager connect.
- Cognizant Agenda session on cores values.
- Leaders Talk (Academy) and many more.

Week 2:

- Walk through to Cognizant GenC Learn Platform
- Timesheet Filling instructions and query sessions
- Walk through to various Cognizant websites and Resources
- Workshop on Waste management in 30 days.
- Workshop on Meditation and Healthy lifestyle



Fig 1

CHAPTER 2: LITERATURE SURVEY

GenC learn cognizant provides a comprehensive pathway for students to see progress after the end of each module. With a team of extremely dedicated and quality lecturers, genc learn cognizant will not only be a place to share knowledge but also to help students get inspired to explore and discover many creative ideas from themselves. Clear and detailed training methods for each lesson will ensure that students can acquire and apply knowledge into practice easily. The teaching tools of genc learn cognizant are guaranteed to be the most complete and intuitive.

Multiple udemy courses are involved on the cognizant GenC learn platform to prepare associates for ICTs and other exams if the trainer isn't available so that no can miss the daily progress.

On performance dashboards our scores and details of the inter are mentioned and one can check its progress there.

Also Behavior training sessions for 2 weeks also held to teach GenCs about the mannerisms and code of the company.

CHAPTER - 3: INTERNSHIP PROGRAM SEQUENCE

3.1 Week 1:

The first week of training started and we were assigned to our respective cohorts. On the first day we had our coach connect where we were taught how to use the platform and upload and download documents on the platform for duly submissions. During this week GenCs were supposed to start their study from UdeMy courses and watch various videos of different topics to prepare for the sessions. On week 1 we were supposed to learn the past engineering concepts through the presentation slides provided to us on the platform and had to take 6 quizzes to analyze us. Then later, we had our first Code challenge to test the preparations of the GenCs.

As the technical training started our Behavior training started as well. We were assigned to a Behavior trainer and on the first day it was the Introduction session. On day 1, we're taught how to introduce ourselves in a corporate setup and then we were assigned a task to prepare a skit on certain topics to let everyone know about the key behavior skills required in office. It continued for 2 days. Then on Wednesday we were tasked to do a debate on various topics and we were distributed into groups of 8 each group had a topic. This task was to analyze the fluency of GenCs in the English language. And on the last week, we had a workshop on writing good emails.

3.2 Week 2-4:

In these weeks, we all have to complete the UdeMy courses provided by the cognizant during the internship, complete the hands-ons, quizzes, assessment(important), and complete the integrated capability test also.

In this week, we learned the database part from scratch with the help of the MySQL and MySQL queries.

After we completed the online UdeMy courses, we did the hands-ons and completing the hands-on is mandatory for every intern and then, after completing the hands-on we used to give assessment, a small test whose marks were taken into account, for the calculation of the final overall performance.

The most important part of this week was covering all the basic aspects of the database and learning MySQL and queries and database from scratch because learning MySQL and queries is very important in databases.

Data Warehouse Fundamentals:

The Data Warehouse is a collection of data in support of management decision processes, which is:

Subject oriented

Integrated

Time variant

Non-volatile

A Data Warehouse is a relational database that is designed for query and analysis.

It usually contains historical data derived from transaction data and other sources.

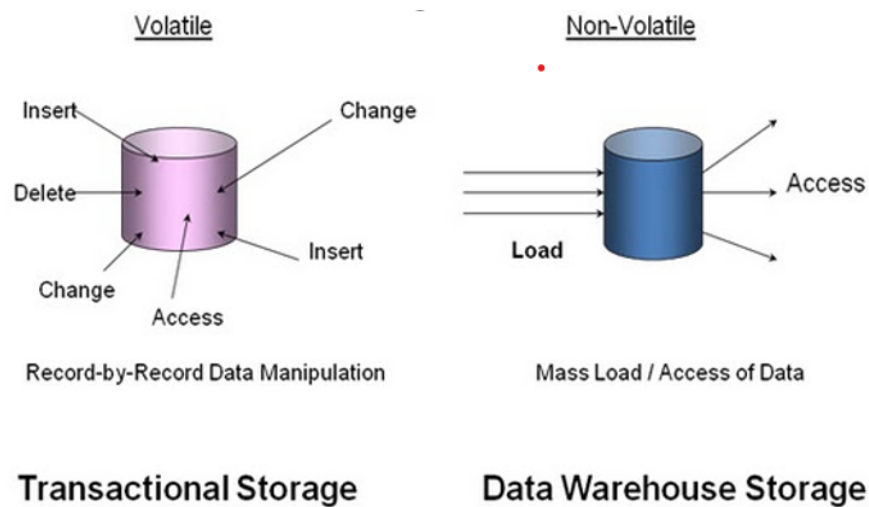


Fig 2

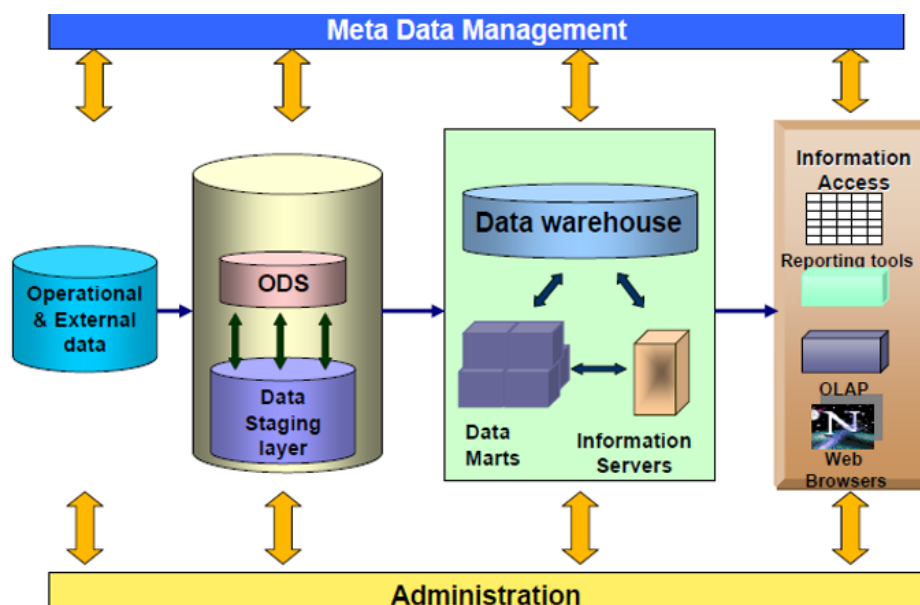


Fig 3

In this module we learnt about the basics of unix and ETL as well

What exactly is Unix? Multi-user, multitasking, and multiprocessor multi-user, 32/64-bit operating system Is the X Windows graphical user interface compatible with other operating systems? Runs on a variety of platforms Source code is included.

Features Of Unix:

Multiple users can share system resources using a multi-user system. Time slicing is used. Multitasking: Performing several things at once. Jobs in the background and foreground Portability: Ability to work with little adjustments on varied hardware Because it is built in a high level language - C - the entire OS, including its File System, Utilities, and Applications, may be relocated.

What exactly is a file system? Kernel's abstraction for representing and organising storage resources. File system in UNIX: Is set up in a tree structure. A file tree can have any depth. The file name cannot be more than 256 characters long. A single route name cannot be more than 1023 characters long.

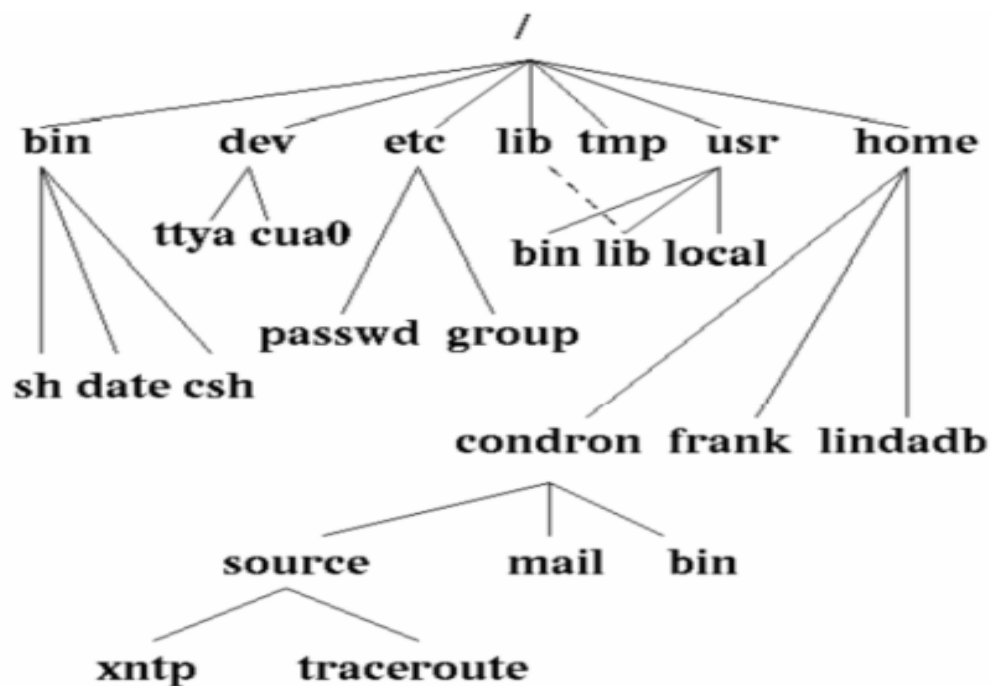


Fig 4

What exactly is an ETL? Extraction, transformation, and loading is referred to as ETL. These procedures are necessary for moving operational data to a data warehouse or presentation area.

Extraction is a procedure that entails reading and comprehending the source material. It also entails transferring the original data into the staging area, where it may be further processed.

Transformation: A variety of processes are transformed throughout the ETL process: Cleaning data include correcting spelling, checking for missing information, and checking for and resolving domain issues. Data from several sources is combined. Data deduplication. The distribution of warehouse keys.

Loading: The integrated data is loaded into the data warehouse's display area. If the data is normalised before being loaded, it is referred to as an enterprise data warehouse. Sorting and sequential data processing are also part of the data staging area. It might be made up of flat files. It takes a long time and is more expensive. It is preferable to improve the display area than spend time standardising the data before loading it.

3.3 Week-4(continuity):

Access type (Integrated Capability Test)

After completing few technologies, we had Integrated capability test, in which we combine our all knowledge what we learned in past i.e SQL, and try to solve the whole long coding questions.

Integrated capability test is of 2 hours, which include all the things what we had learned till now.

It consists of 6 query questions and 30 mcqs and requires full knowledge of all the technologies and integrate that to solve the coding question.

It's a simple or medium size project, which we get as questions in the Integrated capability test within 2 hours.

It contains the huge weightage in the overall performance, the overall performance is calculated as the average of the assessment, Integrated capability test, Business unit score, Project score.

We get two attempts to give the integrated capability test, if we get failed in first attempt then, we get a second attempt to give the integrated capability test.

And the second attempt is the last attempt to the Integrated capability test because failing in the second attempt can lead to the termination of the offer said by the HR in the one session.

3.4 Week-5:

After the ICT, we were told to continue with our curriculum and according to which we were supposed to get a INFORMATICA trainer but we received a mail regarding domain change and my domain was changed from INFORMATICA COGNOS to BIG DATA.

So, according to the new curriculum we had to continue by doing the course for JAVA through Udemy, and I succeeded to do so, and was provided with a certificate for the same.

3.5 Week-6:

After receiving the certificate, we were given some codes created by the trainer herself and then, after successful submission of which we will be assigned another ICT but this time for JAVA, so i successfully submitted the hands on and was provided with a excellent RAG report for them and got a green light for the ICT exam.

Exercise4: Find Biggest and Smallest Number (15 minutes)

Modify the previous program to display the smallest number as well without creating a new looping construct.

Fig 5

Exercise6: Sort numbers without using built-in function (120 minutes)

Create an array with distinct set of 10 numbers. Sort this array in ascending order without using the built-in functions available in Java API.

NOTE: Do not copy and paste code available from internet. Try to understand the algorithm and try writing code based on the understanding of the algorithm.

Reference: https://en.wikipedia.org/wiki/Bubble_sort



Fig 6

3.6 Week-7:

After week-6, we expect a link for the ICT exam on JAVA, then after that we are supposed to continue studying PYTHON from UdeMy and similarly study the theoretical part for BIG DATA, AVM (Application Value Management) and Azure. During week-7, we also got a link for an English Proficiency Exam called Step+ - Learnship, which was mandatory. In Learnship, i got an 8 out of 10, which is of Level B2 in CEFR Rating.

CEFR	A1		A2		B1		B2		C1		C2	
STEP	1	2	3	4	5	6	7	8	9	10	11	12

Fig 7

After successful completion of which, we will be undergoing an interview process by the mentor, in order to get assigned to a real time project based on our technical knowledge. On successful performance and result of this project, we will be converted to FTE (Full Time Employment) and will be regarded as an Employee of Cognizant and begin our career in the field of Computer Science and Information Technology.

CHAPTER-4: HANDS ON, QUIZZES, ASSIGNMENTS AND CODE SNIPPETS

4.1 SQL HANDS-ON:



















Hands-On	
 Customers having gmail id	XP : 5 / 5 
 Car rental system - Create Table	XP : 5 / 5 
 car rental system - Insert values	XP : 5 / 5 
 Hunger eats - update table	XP : 5 / 5 
 Hunger eats - change datatype	XP : 5 / 5 
 Delivery Partner details based on rating	XP : 5 / 5 
 Insert Records - Department	XP : 5 / 5 
 Department name based on block number	XP : 5 / 5 
 Student and their Department Based on City	XP : 5 / 5 

Fig 8









 Car rental system - add new column	XP : 5 / 5 
 Hunger eats - Change the field name	XP : 5 / 5 
 Car details based on type and name	XP : 5 / 5 
 Car & owner details based on car type	XP : 5 / 5 

Fig 9

Hands-On

</> Total sale daywise	XP : 5 / 5 ✓
</> Concatenating Details	XP : 5 / 5 ✓
</> Maruthi car owner details	XP : 5 / 5 ✓
</> Rental details based on date	XP : 5 / 5 ✓
</> Hotels that took order based on month	XP : 5 / 5 ✓
</> Review of delivery partner based on rating	XP : 5 / 5 ✓
</> Hotels that took order more than five times	XP : 5 / 5 ✓
</> Order details	XP : 5 / 5 ✓
</> Customer contact details	XP : 5 / 5 ✓

Fig 10

</> No of time rented by each car	XP : 5 / 5 ✓
</> Hotels not taken orders in a specific month	XP : 5 / 5 ✓
</> Credential details	XP : 5 / 5 ✓
</> Cars not taken for rent	XP : 5 / 5 ✓
</> Hotel_info	XP : 5 / 5 ✓
</> Customer mail details	XP : 5 / 5 ✓

Fig 11

HANDS-ON SAMPLE:

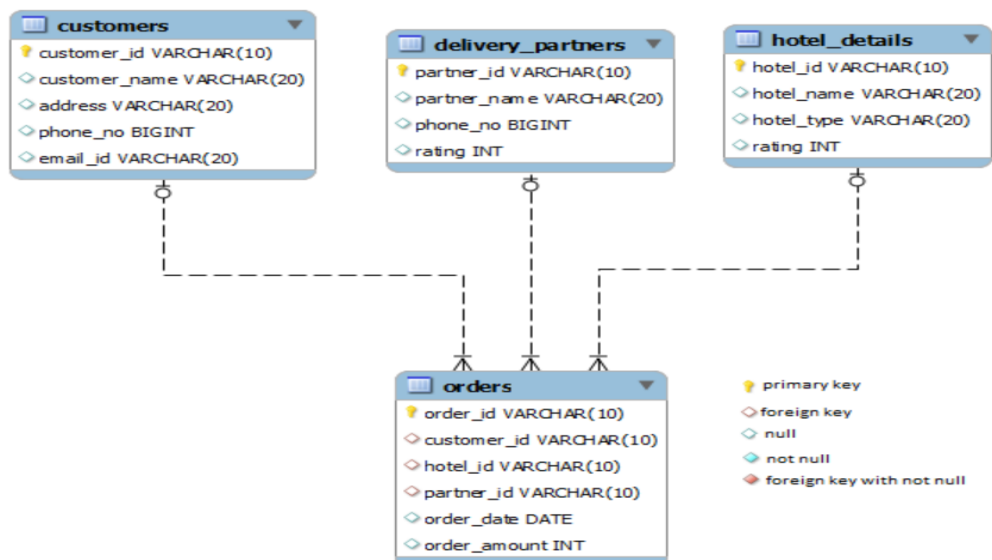


Fig 12

```
sample.sql
1 ALTER TABLE hotel_details CHANGE `rating` `hotel_rating` INT;
```

Fig 13

4.2 UNIX HANDS-ON:

Mandatory Hands-On

<> Directory Creation - 1	XP:3 /3 ✓
<> Copy File 1	XP:3 /3 ✓
<> File Permission 2	XP:3 /3 ✓
<> File Permission 3	XP:3 /3 ✓
<> List Names	XP:3 /3 ✓
<> Count Files	XP:3 /3 ✓
<> Pattern Search	XP:3 /3 ✓
<> Word Search	XP:3 /3 ✓
<> Redirect Command - 1	XP:3 /3 ✓

Fig 14

HANDS-ON SAMPLE:


```
directory.sh 
1 rm vpl_cleanup.sh
2 mkdir mydir
3 mkdir -p mydir/colors
4 mkdir -p mydir/shape
5 mkdir -p mydir/animals
6
7 mkdir -p mydir/animals/mammals
8 mkdir -p mydir/animals/reptiles
9
10 touch mydir/animals/mammals/bat
11 touch mydir/animals/mammals/dog
12 touch mydir/animals/mammals/platypus
13
14 touch mydir/animals/reptiles/snakes
15 touch mydir/animals/reptiles/crocodile
16 touch mydir/animals/reptiles/lizard
17
18 mkdir -p mydir/colors/basic
19 mkdir -p mydir/colors/blended
20
21 touch mydir/colors/basic/blue
22 touch mydir/colors/basic/green
23 touch mydir/colors/basic/red
24
25 touch mydir/colors/blended/yellow
26 touch mydir/colors/blended/orange
27 touch mydir/colors/blended/pink
```

Fig 15

4.3 JAVA HANDS-ON:

SAMPLE CODE-1:

```
public class maxmin {
    public static void main(String[] args) {
        int max, min, i;
        int a[] = new int[]{1,2,3,4,5};
        int n= a.length;
        max=min=a[0];
        for(i=1;i<n;i++){
            if(a[i]>max)
                max=a[i];

            if(a[i]<min)
                min=a[i];
        }
        System.out.print("\nBiggest number is: " +max);
        System.out.print("\nSmallest number is: " +min);
    }
}
```

Fig 16

OUTPUT:

```
D:\Java\bin\java.exe "-javaagent:C:\
Biggest number is: 5
Smallest number is: 1
Process finished with exit code 0
```

Fig 17

SAMPLE CODE-2:

```
public class Sorting {  
    public static void main(String[] args) {  
        int a[] = new int[]{4,53,1,6,56,8,7,58,76,1};  
        int n = a.length;  
        int i;  
        int temp=0;  
  
        System.out.println("Elements of array before sorting: ");  
        for(i=0;i<n;i++){  
            System.out.println(a[i] + "");  
        }  
  
        for(i=0;i<n;i++){  
            for(int j=i+1;j<n;j++){  
                if(a[i]>a[j]){  
                    temp=a[i];  
                    a[i]=a[j];  
                    a[j]=temp;  
                }  
            }  
        }  
        System.out.println("\nSorted array is: ");  
        for(i=0;i<n;i++){  
            System.out.println(a[i]+"");  
        }  
    }  
}
```

Fig 18

OUTPUT:

```
Elements of array before sorting:
4
53
1
6
56
8
7
58
76
1

Sorted array is:
1
1
4
6
7
8
53
56
58
76

Process finished with exit code 0
```

Fig 19

CHAPTER 5: RESULTS AND PERFORMANCE ANALYSIS

5.1 LEARNSHIP STEP+ RESULT:

One Assessment (STEP+)

Test Results: Kartik Bohra (Kartik.Bohra@cognizant.com)

Date of Test: March 11, 2022

Your results for the grammar, listening, and reading sections appear below. The speaking section will be evaluated within 24 business hours and you will receive notification when your results are available. At that time, you will also receive your overall score for the test and a description of your placement level, based on the results.

Test Results

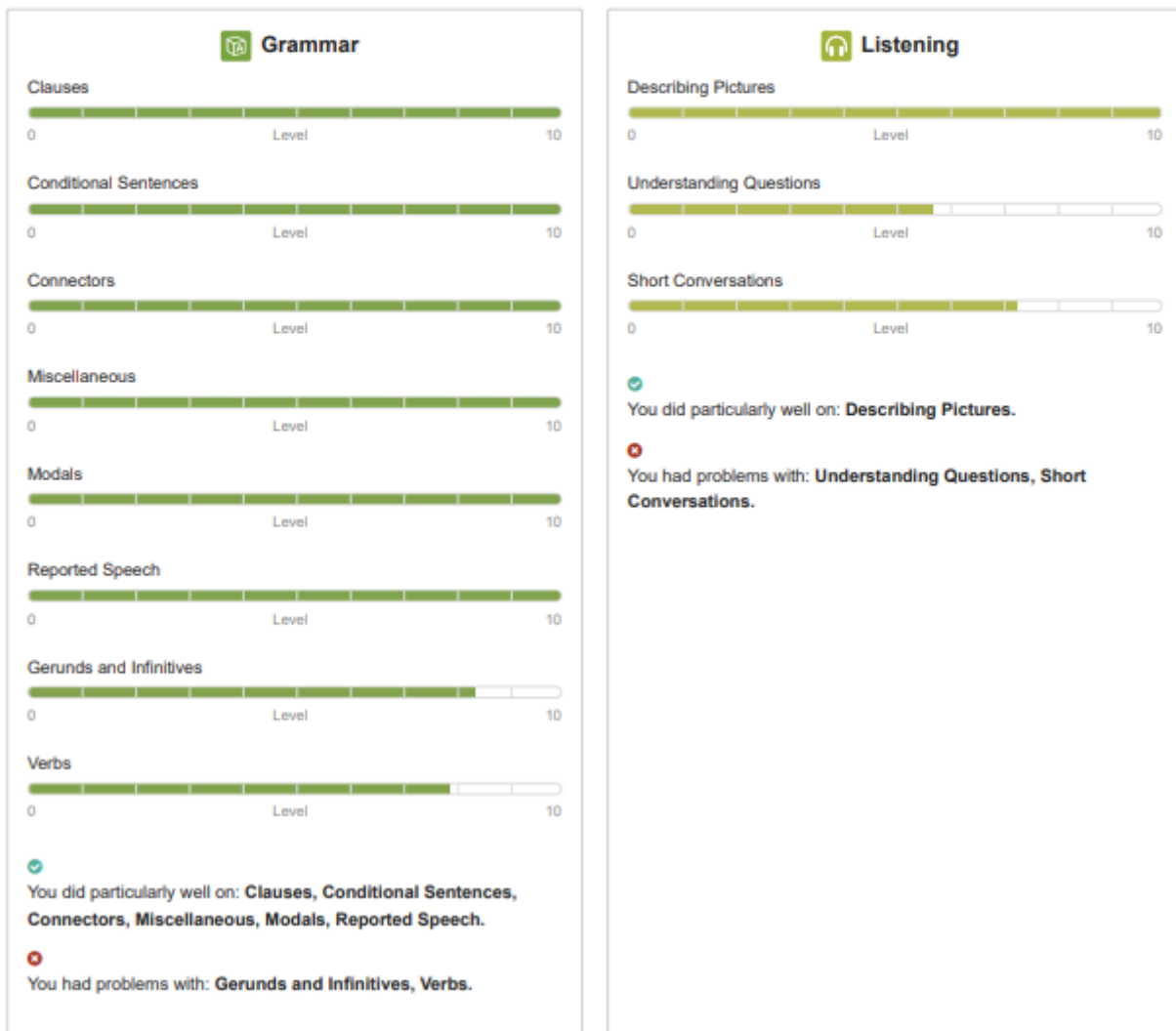
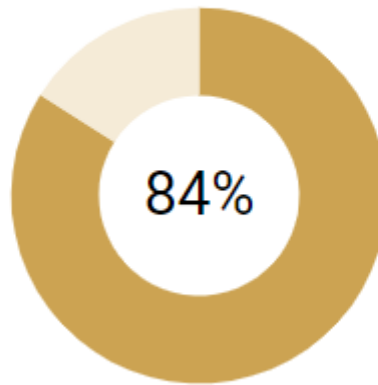


Fig 20

5.2 RAG REPORT:

Practice progress

Hands-on Progress



85 - Batch Topper

Fig 21

Performance Status (W8)

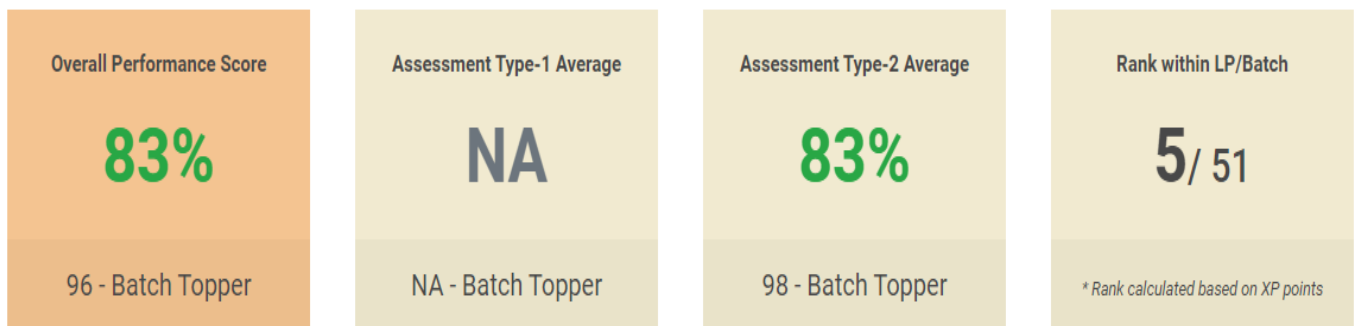


Fig 22

Fig 23

Schedule Variance

		CP 1		
		W1	W2	W3
Hands-on	Due	22	6	18
	Actual	22	6	18
Assessment Type 1	Due			
	Actual			
Assessment Type 2	Due		1	
	Actual		1	
Project Score				
BU Rating				

Fig 24

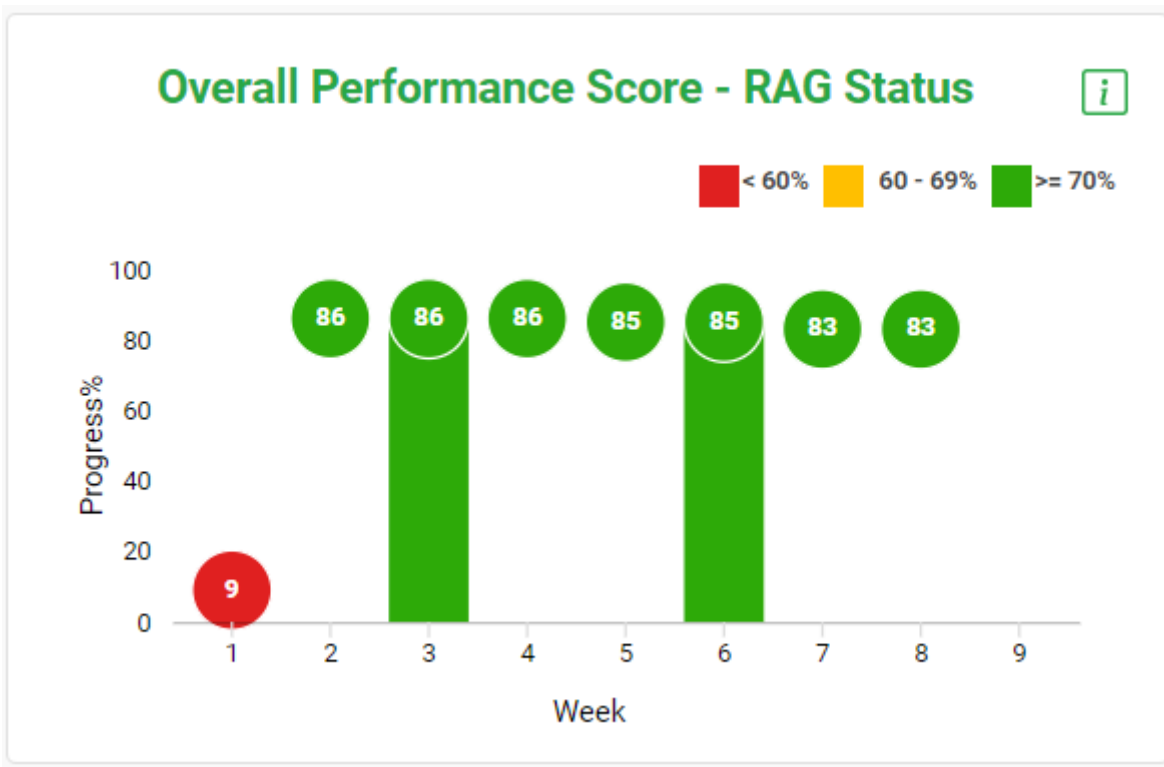


Fig 25

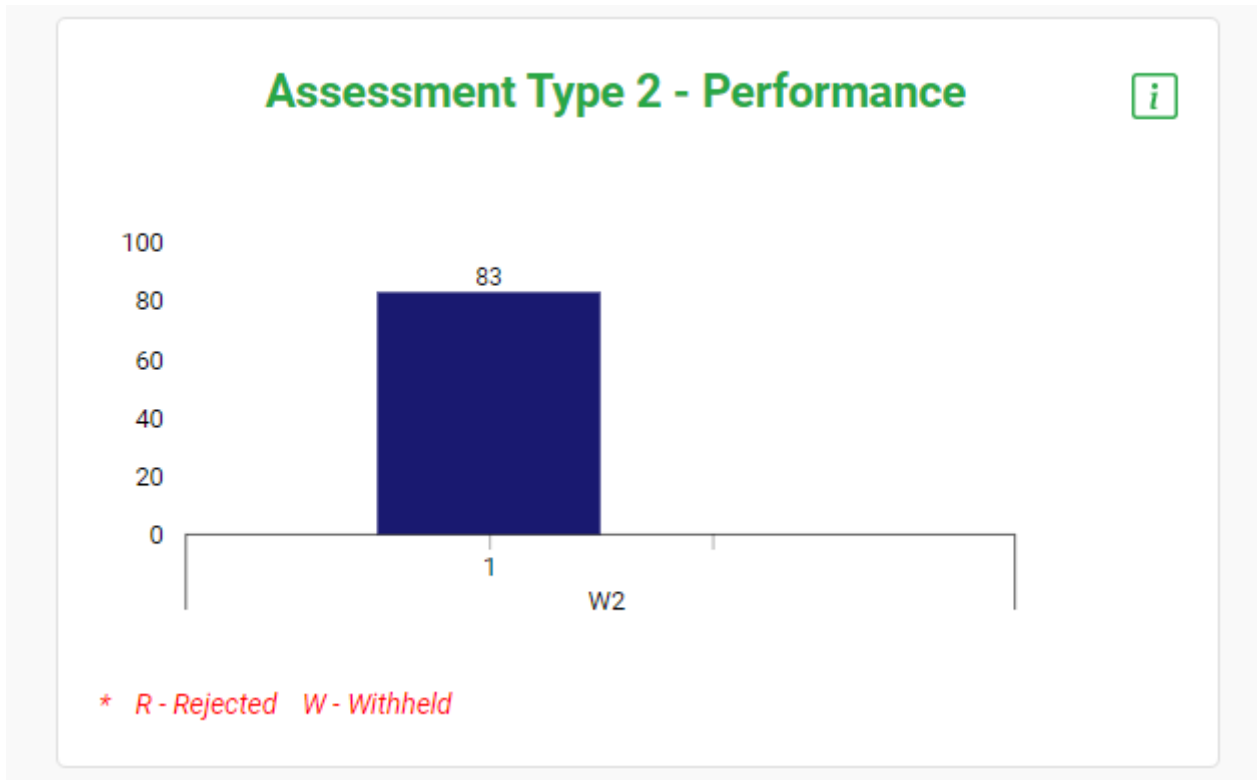


Fig 26

My Accomplishments

3

LEVEL

300_{xp}

[more..](#)

Points required to reach next level

50 more..

Points to reach level 4: 350

[more..](#)

Fig 27

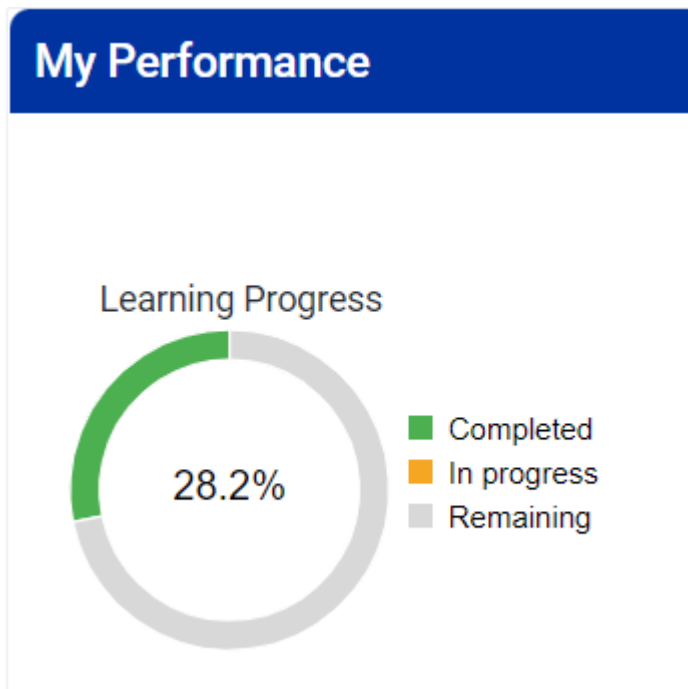


Fig 28

XP points summary

Type	XP
Assess Type 2 - GENC - AVM ANSI SQL - SKILL BASED ASSESSMENT [101-BASICS]	50.00
Coding Activity	250.00
Total	300

Fig 29

CHAPTER -6: CONCLUSION

6.1 Conclusion

I am still on the way doing my internship with the cognizant and I have learned so much from this internship offered by the internship, rally helped me in shaping my personality and equipping me with the knowledge of this technologies.

My Final internship project is still remaining with cognizant internship and I will give my best in doing the internship project.

I like to thanks in advance to the coaches, SME, mentor and trainer of cognizant who guided me through the whole journey of my internship in cognizant and solved all my doubts during the internship. The Coaches, SME, Mentor and trainer were all of good nature and at every moment helped me when I was doing wrong and shaped me during my whole internship.

Specially the my mentor gave his more effort during the internship and passed our all query to the higher authority in the company whether it was related to the reattempt of the assessment, technical issue faced in the assessment or providing extra time to complete the work.

I would highly recommend my juniors to prepare well for the offer in the cognizant and get the internship opportunity form the cognizant because cognizant is top fortune company in the information technology field.

I would like to thank my TNP officer Mr. Pankaj Kumar and Faculty member Dr. Rakesh Kanji sir for their support and hard work during the whole placement process because I know how complex is the management of the placement drive.

REFERENCES

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- Internship experience
- Assessment
- Cognizant internship curriculum