

SAMPLE TASKS

Following are some sample tasks that will allow us to evaluate your talent.

If you have done the previous tasks (older version) and submitted them then it is not necessary for you to complete some from here. However it is always better to be proactive and you are free to do some more of these tasks.

NOTE

You can do a maximum of 2 tasks, if nothing is mentioned explicitly. If otherwise mentioned please follow the guidelines. Tasks have no specific time limit and evaluations are done while we hire interns monthly or weekly (depending on roles). The format for submitting the tasks is in Documents/Spreadsheets/Videos/Graphic/Code or any other way you would like to present your task (again unless otherwise mentioned). You can upload your files onto a cloud drive and submit the link for the same if they are larger than 5mb or unconventional formats. For smaller conventional files an attachment option will be provided within the given form. Please submit your tasks here: <https://forms.monday.com/forms/98624edbbf35cebe8fccd367fa27ff15>

Animation

Choose any one of the given tasks.

A1:

Create a sliding transition animation to improve upon the UI of a scrollable webpage. The webpage should be divided into two scrollable pages with 4 quadrants each. Each quadrant can have pictures, information or both.

A2:

Showcase the Stirring Minds company logo using a singular polygon shape (eg: triangle) pieces that are transformed from the company logo located at the center of the screen to text 'The Stirred One'. The transition is to be made in such a way that the logo appears to be broken into several polygonal fragments and reassembled to form the motto.

A3:

Visually represent any popular multiclass dataset into a relevant graph (such as a pie graph or a waterfall chart). You can download the datasets and their representations from an online repository (specify repository link). Animate the transition between as many different types of graphs relevant to the dataset as possible.

A4:

Create a sign up web page or download a template online (specify link for the template if you choose to do so). The web page itself should be free of any animations in its raw state. Add as many micro animations to this webpage as you can think of. One example is displaying the strength of the password simultaneously as the user enters it.

A5:

Create the loading animation for the transition of a webpage to a coding workspace. The loading screen should emulate an environment where the user has the illusion of the different components of the

workspace are being loaded. You do not have to create the workspace yourself. Be as creative as possible.

Blockchain Development

Choose any one of the given tasks.

BD1:

As panic ensues due to the uprising of the novel coronavirus. Digital health records are relied upon to ensure authorised medical personnel can provide an optimum level of health care. However this is proving to be difficult as people are not allowed to leave their homes conforming to the quarantine that has been set up. Simulate a blockchain application where users can publish their health records safely on the blockchain and ensure that only authorised personnel can access them anywhere in the world.

BD2:

As the pandemic caused by COVID-19 spreads across India, a country filled with superstitious and gullible minds. Fake medicine is rampant throughout the streets. Simulate a blockchain application to track pharmaceuticals through a supply chain and to ensure the consumers receive an authentic product.

BD3:

Companies often provide traditional paper discount coupons and tokens to their customers as a reward for loyalty. In this digital age of online transactions we need a format of customer service programs that create their own blockchain loyalty tokens for their customers.

Wordpress

Choose any one of the given tasks.

W1:

You have created your own startup inspired by stirring minds and have gotten to a successful point in your entrepreneurship where you are now an affiliate for major IT companies such as Amazon and Google. Create your website with visually appealing links that connect your content to relevant products from the companies you are affiliated to.

W2:

Besides primarily being a blogging site, WordPress has been used more and more recently in the eCommerce domain. Use any plugins required to equip your growing blogging website with ecommerce functionality and sell merchandise belonging to your brand. Note: The merchandise can be physical or digital.

W3:

Create a directory website for local businesses in the city you live in. The website should have the functionality to sort the businesses based on customer reviews. Create as many classes of businesses as possible, for example: restaurants, auto services, home services to name a few. Add the functionality to categorise these businesses based on the neighbourhood they are located in.

UI/UX

Choose any one of the given tasks along with the compulsory task number 5.

UIUX1:

Design a webpage to maximise the number of visitors who submit their information via the portal you have designed to your client, an online career counselling company. This will allow the client's sales team to follow up on these leads and convert them to paying customers.

UIUX2:

There are thousands of blog templates available online like WordPress and Wix. Your company wants to invest into content marketing to generate leads. Design a unique blog that stands out amongst these premade templates for optimised lead generation. The written content of these blogs is used to capture inbound email addresses.

UIUX3:

Your client is a successful fitness blogger who now wants to sell his digital merchandise online in the form of training programmes. Design an ecommerce website for the same with focus on the conversion rate of visitors to customers. Add suitable metrics to the website and make it as unique as possible compared to the millions of other ecommerce sites on the web.

UIUX4:

Design a mobile application that manages your daily tasks and categorizes them into habits, daily routines and to-do lists. To-Do lists will contain objectives that are to be completed only once. Create a reward system wherein the user can reward himself for successfully completing tasks. Rewards can also be based on other criterias such as staying away from a bad habit. Get creative.

UIUX5:

The number one thing that makes employers reject portfolios is lack of explanation or context. Design a portfolio that explains the decisions made by you.

Blogging

Complete 2 tasks including B1.**B1:**

Create a blog demonstrating your video blogging or photo blogging setup. Take us through your entire blogging procedure in the blog.

B2:

Go through the stirring minds website and create a blog depicting your thoughts upon its renovation. How will you gear up the website to further optimize its lead generation capabilities.

B3:

Bloggers are required to be experts at social networking. Social networks aid companies in marketing and social network marketing can play an integral role in the success of a budding startup in these trying times. Create a blog encouraging people to engage in social networking and also share your personal tips to consider when marketing online.

B4:

Big media such as newspapers and television are proclaimed dead. Create a blog stating your opinions on this statement. Conclude the argument and also portray ways in which big media can utilise tools you recommend to put their skills and experience to use.

B5:

Write a comprehensive blog on the features of any project management tool like Asana. Tell us your thoughts on what functionalities could be added, updated or modified to improve upon the user experience of the application.

Marketing Automation

Complete any one of the following tasks

Document the process used to complete the following tasks using any marketing automation software. Some recommended softwares are: Zapier, Zoho, Hubspot and MailChimp.

MA1:

The goal of automation is to redirect the focus of employees into areas that require unique expertise such as strategizing and client interaction. Automate the process to take care of customer communications (for example: answering frequently asked questions).

MA2:

Automate a process to develop relationships with clients at various stages of the sales funnel. Focus on marketing and communication efforts (listening to the needs of prospects and providing appropriate answers).

MA3:

Social Media marketing has become very popular recently. It is even debated that the practice will bring an end to Big Media marketing. Automate a process to schedule content on any social media website such as Instagram.

MA4:

Market research and analytics are key for a company to strategise their next moves for optimum growth and development. How will you go about automating a task that provides market analytics over periodic intervals of time.

Data Entry

Complete DE1 and any other of the following tasks.

Document your approach using any convenient software to accomplish the following tasks.

DE1:

Use any data (present as forms) available online or source the data from any website you are comfortable with (mention links for the data in your document). The dataset should have customer and account details as fields amongst any other conforming to the dataset and a minimum of 100 records.

DE2:

Document the process to compile and sort information while preparing to enter the source data into a computer. How will you verify the accuracy of the data?

DE3:

Review a dataset for deficiencies or errors. Correct any incompatibilities. You can use the following link to find a suitable dataset. Introduce unusual errors by yourself which you feel are difficult to correct using automation. Explain the process of resolving such errors.

HR (Intern Coordinators)**Complete any two of these tasks****HRIC 1:**

Explain your approach in consolidation and revision of typical existing job descriptions in a startup. Recommend salary adjustments commensurating with any new titles. When do you deem the revision of a job description necessary. How will you go about coordinating an initiative to realign Applicant Tracking System.

HRIC 2:

Implement an initiative to digitize personnel files. What are the administrative duties associated with organizing personnel files. How will you assist management in conducting background checks and preparing paperwork for new recruits. What attributes are check accuracy of personnel files.

HRIC 3:

How will you facilitate the process of hiring new employees? What is the process to ensure that the HR team is provided with detailed profiles and other research of qualified candidates. What is the importance of drug screening and criminal background checks for new employees. How will you perform these checks?

HRIC 4:

Assist in the implementation of your company's Human Resources Department's policies and procedures. What administrative support can you provide to the HR Department? The director of the HR is on an unprecedented leave. How will you assist the company in such a situation?

HRIC 5:

What is the use of I-9 in human resources? Direct a process by verifying work authorization and processing paperwork including I-9 and background checks. How will you introduce a secure electronic filing system for employee documents such as medical forms and personal information forms.

Data Science**Complete any two of these tasks**

DS1: How to represent a Bayesian Network in the form of Markov Random Fields (MRF)? Explain them briefly using an example.

DS2: What cross-validation technique would you use on a time series data set?

DS3: You are given a data set consisting of variables with more than 30 percent missing values. How will you deal with them?

DS4: How can a time-series data be declared as stationary?

DS5: Explain how a ROC curve works?

DS6: People who bought this also bought...' recommendations seen on Amazon. A Startup company which deals with e-commerce wants to inculcate similar algorithms in their website too. Help the company to determine the algorithm that amazon uses for their recommendation system that they can implement for increasing their efficiency based on the similarities of the products that the customer is looking for.

DS7 What's the most preferred central Tendency measure for average in the below graph?

DS8: For the dataset named "iris" consisting of attributes such as sepal length, petal length, sepal width, petal width and Species. Perform Divisive hierarchical clustering and plot the dendrogram obtained and find the divisive coefficient.

Dataset link : <https://www.kaggle.com/uciml/iris>

DS9 : Consider the dataset named iris (link given below) which consists of data of different species and their attributes. Perform the following operations to the dataset:

a. Import the data set

b. Store the split data into separate variables.

c. Create a naive Bayes model on the training dataset

d. Now predict the data model for a testing dataset that you have separated in bit b.

Upload the file which contains the code for the above operations.

Machine learning

Complete any two of these tasks

ML1: How would you handle an imbalanced dataset?

ML2: You are provided with a train data set having 5000 columns and 2 million rows. The data set is based on a classification problem. You have been asked to lessen the measurement from this information with the goal that model calculation time can be decreased. Your machine has memory constraints. What would you do? (You can make the necessary practical assumptions.)

ML3: "Explain the following in the context of naiveBayes Algorithm.

1)Prior probability

2)Likelihood and

3)Marginal likelihood"

ML4: You are assigned to a project where you are working on a dataset provided with Career guidance which contains various details of the students and their preferred career choices. How

do you select the important variables? Explain your method in detail. (You are free to assume the variables as needed).

ML5: You were assigned to a project where you built a random forest model with 10000 trees. You were in cloud-nine after getting a training error of 0.00. But the validation error is 46.89.

What went wrong? Does that mean that you trained your model wrong ?.(Explain briefly)

ML6: How would you explain Machine learning to a grade-1 kid (probably 5-6 years old)?

Web Development-Front End.

Complete any two of these tasks

WD1: Visit to [careerguide.com](https://www.careerguide.com/)(<https://www.careerguide.com/>) and navigate to SIGN IN (right most tab in the top left corner) and click on it. Create the outcome that is visible on the screen and share your code file as well as the screenshot of your output in the given dropbox link.

(Note : You can tweak the colours and the style as per your convenience)

WD2: How to check if a variable is a number in javascript?

WD3: Honey is learning JavaScript and she wants to write a program in which she wants to read two numbers from the console and add them. After adding them she wants to check whether it is an Even number or Odd number and print the output. Help Honey by writing the code.

WD4: Natasha is given a different set of values and she wants to validate which value is number and which is not. Help her solve this problem using JavaScript.

WD5: What is JavaScript and what are the advantages of JavaScript?

Business Analytics

Complete any two of these tasks

BA1: "Your organization is assigned with the task for creation of a librarian portal. The portal must contain the following things:

1)Create a login for for users

2)After creating an account, users can search for all books in my library by name, author, genre, published year etc.

3)Users can reserve books online and then collect it from the library.

There are many other requirements that you need to elicit from the client. Create an information structure so the above requirements can be fulfilled. (Each requirement can be drilled down to software requirements.)"

BA2: Sputsky a company was founded in 2017 which sells a varied number of stationery products across 12 states in India. Their online store is about 48%of their total business. They have a small but dedicated marketing team which are facing the following challenges:

1) The company didn't have a targeted strategy while opening their retail store.

2)They didn't have an effective way to drive online shoppers to physical stores.

As an emerging BA devise a solution to the above challenges faced by Sputsky company.

BA3:"A Russian Company Kelvoski uses ERP to collect, store, manage and interpret data from many business functions. The company has a market capitalisation of \$950 million and

approached you to lead the implementation of an ERP system to significantly improve the efficiency across the organisation.

The biggest challenge for the client was in understanding how well the business was working. They suspected inefficiencies & data errors from disconnected systems & were concerned this was having a negative impact on their interactions with customers. Devise a solution based on the inputs given above.

BA4: Starbucks serves as one of the best-known examples, especially regarding its intention to close approximately 600 coffee stores in the USA in 2008; such a decision was accepted by the company's managers after the provision of the numerous additional offers such as free wi-fi or even music for sale. However, Starbucks started facing great challenges, which could be proved by the fact that the company lost the feeling of the warm neighbourhood coffee shop and became a mass brand that would establish a premium price for the ordinary experience. What changes should have Starbucks included so that it could have maintained its brand value and retained its customers. Comment on this briefly.

Search Engine Optimization

Complete any two of these tasks

SEO1: JobsAsia launched a brand new website, and their goal was to get it to rank high on the search engine results pages (SERPs) for the core keywords their target audience in Asia use to search online for the services they offer. The client's top competitors in the industry, dominated the topmost positions in the search results, thus the client's website could only achieve a visibility of 21%, and saw little traffic.

Devise a solution for the above given scenario so that the company can have a higher visibility and high traffic.

SEO2: Xing Huan, a leading smart lighting brand, offers more than the convenience of wireless light control. The company believes in giving consumers the best lighting experience to enrich their daily lives. The main website focuses on providing relevant content about the brand and product experience. However, to reach online consumers looking for a lighting solution that fits their needs, Xing Huan decided to inspire and educate through enriched content via blog posts. Provide a solution to the scenario given above.

SEO3: Refer to the attachment given and answer the following question.

Do keyword research to discover evergreen topics, keyword opportunities, related keywords, and questions. Do a thorough competitive analysis to determine for which you can rank in the top five within the next three to six months.

SEO4: Patna-based DekhaTV needs to be visible to the right buyer at the right time. Apart from trade shows, industry conferences, and referrals, DekhaTV's best opportunity to get in front of new buyers is through their website.

As a means of generating more business, your team is assigned to create an SEO campaign designed to meet aggressive business goals.

SEO5: Katappa Academy, a leader in educational childcare, has two distinct business objectives 1) connect the Kiddie Academy brand to their consumers locally and 2) reach new potential franchisees to help expand their network of centres across the country. They used a variety of SEO strategies earlier but it wasn't enough to measure how effective their initiatives were in terms of performance.

Your team has been assigned to devise a solution that would ultimately help generate leads and inquiries from prospects seeking childcare or people looking to start a business.

Android App Development

Complete 2 tasks

AAD1: Create a login module which contains the fields: username, password (TextViews) and a SUBMIT button.

1)Customize all buttons and textviews.

2)Maintain all the resources properly in drawable.

3)Make use of string styles and such kinds of xml files.

you are free to make your necessary assumptions. Upload the app screen shots in the link provided.

AAD2: Create a module of Shopping list which has the following fields: Item name (Text box) , Quantity (Spinner) and Retrieve (text) which retrieves the data from the CustomList view of the Shopping List.

Use firestore or firebase to connect and store the data. (You are free to make any assumptions as required)

Upload the screenshots of the modules that have been asked above.

AAD3: Under what condition could the code sample below crash your application? How would you modify the code to avoid this potential problem? Explain your answer.

```
Intent sendIntent = new Intent();
sendIntent.setAction(Intent.ACTION_SEND);
sendIntent.putExtra(Intent.EXTRA_TEXT, textMessage);
sendIntent.setType(HTTP.PLAIN_TEXT_TYPE); // ""text/plain"" MIME type
startActivity(sendIntent);
```

AAD4: Consider you are starting a service in an Activity as follows:

```
Intent service = new Intent(context, MyService.class);
startService(service);
```

where MyService accesses a remote server via an Internet connection.

If the Activity is showing an animation that indicates some kind of progress, what issue might you encounter and how could you address it?

AAD5: Normally, in the process of carrying out a screen reorientation, the Android platform tears down the foreground activity and recreates it, restoring each of the view values in the activity's layout. In an app you are working on, you notice that a view's value is not being restored after screen reorientation. What could be a likely cause of the problem that you should verify, at a minimum, about that view?

Software Testing

Complete 2 tasks.

ST1: Pronot is a leading consumer goods company that produces many leading brands of food and household products. The company requested accessibility testing for its global website. Testing was to be done in accordance with the World Wide Web Consortium (W3C)'s Web Content Accessibility Guidelines (WCAG) 2.0. It included both automated and manual testing. The client needed the accessibility test results as quickly as possible in order to ensure compliance and avoid fines. Provide a quality solution to the above scenario.

ST2: Appili is one of India's leading healthcare service providers, Appili faced an unprecedented challenge – balancing high quality healthcare services with increased government regulations, rising patient expectations and a demand for cost control. The range of services they offer result in Appili being directly answerable to several bodies who all enforce different statutory regulations. Appili has commenced on the implementation of SAP solutions for their back-office administration.

Provide a solution such that their systems, processes and reporting must comply with increasingly complex and ever-changing demands.

ST3: Kothapalli Water began their Operations Management Centre (OMC) implementation in the year 2004 and within a year all the infrastructure and IT were in place, allowing the business to push ahead with plans to adopt a mobile solution. This was achieved through the uses of SAP Mobile Asset Management for Utilities (MAU) with SAP Mobile Interface (MI), allowing the 15000-field workforce member to communicate with the backend system remotely.

Kothapalli Water required a mobile solution that could accommodate all types of field-working, was flexible to changes in its operating model, would support the use of contractors, and would enable the delivery of operational efficiencies.

Provide a detailed solution that contributes to the requirement for the existing mobile solution to be developed further.

ST4: BYU The Learning Application has been serving and delivering content, digital information services and course–driven training programs for instructors, students and other academic bodies that has transformed the learning experience. One of the biggest challenges the organization faces is maintaining its mission critical application at peak performance and scalability levels. The system without any solid, well framed methodology for predicting system behaviour and performance under real time stress was really jeopardizing.

Devise a solution to the above scenario which would revamp their operations and services.

ST5: FCCI specializes in active global and international equity strategies, employing sophisticated analytical modeling for active stock selection. Utilizing their extensive research capabilities, customized investment management solutions are developed for their clients. The current software systems that they are using were undergoing major changes. The regression suite was very large due to the complexity of the algorithms used in the business scenarios. The client moved from an agile development SDLC to an agile/DevOps SDLC.

Devise a solution that helps FCCI from moving from a manual configure and deploy process to automation, building out a new automation framework and delivering automation “in sprint” so tests could be kicked off by the CI pipeline.

Remote Work Strategy Marketing

Complete 2 tasks.

RWSM1:ThinQ is a think tank that majorly focuses on changes in education policies that need to be adapted in order to generate a skillable workforce. The company received a request from one of the Universities to suggest some changes in their training methodology which will help them to achieve high placement offers. The employees at ThinQ use design thinking principles to devise a solution for the given problem statements. They use a lot of sticky-notes, white-board, and sketches to design those policies and suggest innovative methodologies. But due to the lockdown in India the team is not accessible to their workspace which is restricting them from working together.

Devise a solution where the team can share an online whiteboard, use sticky notes and make all sorts of diagrams for framing their policies. Also find out a platform that efficiently has a video call facility through which they can work remotely to design their policies.

RWSM2: BYB Parlour is a boutique IT recruitment agency that is based in Visakhapatnam. Verma Rao, the founder of the company, approached your team to create a marketing strategy that would allow more customers to contact them remotely using a service i.e building up a customer support center. The company evolved from a startup which is still in its budding stage, thus Mr Verma is worried about the team dynamics as well which plays a major role regarding the performance of an organization.

Devise a strategy that how Mr Verma could use some of the remote working software's (such as Asana, Slack /Zoom) so that the team dynamics isn't disturbed at the same time he can monitor the team progress at any point of time which will help him to make quantifiable decisions.

RWSM3: Amid COVID19 crisis many of the educational institutions have shut down due to the norms laid out by the government. Due to shutting down of Universities for a long time both the students as well as the academic staff are scared as this pandemic may lead hampering of their education. In addition to that the University also must perform some result analysis so that they can train their students according for the upcoming academic year. The University primarily needs remote working methodologies where it can:

- 1) Conduct online classes for students.

- 2) Conduct meetings of the faculty of the University.
- 3) A platform through which they can monitor, and grade assignments given to the students and
- 4) Also, a platform through which the University can also keep a tab on their faculties to monitor the work progress assigned to them.

You have been assigned with the task of devising a detailed solution regarding use of different remote working tools that the University can avail for the smooth conductance of their operations.

RWSM4: ZidCon is currently one of the forerunners in promoting blockchain-based technology to the world. A large amount of their employees are working remotely around the world. Some of their workers have no access to a hub office. Distributed workers from certain locations do not get the opportunity to interact live with their other team members. ZidCon have found that some of these employees were experiencing loneliness due to not being around others in a physical office. Working extremely long hours without adequate breaks seemed to be normal for the remote team as well. This has happened as a result of trying to work across multiple time zones to ensure close collaboration.

As a remote-working consultant your team is assigned to investigate these factors that are burning out for ZidCon and how they can adapt practices that will escalate their work efficiency.

Facebook Marketing-

Complete 2 tasks.

FM1: Draft a rough plan to increase the Facebook likes and engagement rate of the company's page.

FM2: How to track and measure results with Facebook analytics?

FM3: How to advertise on Facebook – explain setting audience, budget and ad format?

FM4: How can the posts be scheduled on Facebook?

FM5: Visit the Facebook page of Stirring minds and suggest some creative changes or modifications that be incorporated.

Accounting-

Complete 2 tasks.

AC1: Build a plan for compensation and management of the financial database of the employees that involves usage of computers more than manual work.

AC2: Suggest ways to manage the petty cash and budget of a start-up.

AC3: Discuss the possible sources of expenses incurred by a start-up and how can they be minimised to incur only necessary expenses.

AC4: What are lucrative investments options for personal and entrepreneurial finance?

Business Development:

Complete 2 tasks.

BD1: What are the ways to enhance the outreach of www.stirringminds.com

BD2: What tools and methods can be used to generate leads?

BD3: How the on-boarded clients can be encouraged for trying more products/services. What measures can be used to hold these clients?

Project Management-

Complete 2 tasks.

PMP1: What metrics will you use while managing a project for a start-up?

PMP2: How can project management be more systematized than involving human involvement.

PMP3: How can the customers/audience be reached to ensure their satisfaction?

Content Writing-

CW1: Write an article in about 700 words how the current lockdown situation has impacted a student's career?

CW2: Write an article in maximum 1000 words describing the mushrooming online courses and career development avenues for students.

CW3: Write an article elaborating the need of career counselling in today's world. Also, include what progress has India made in this respect.

Human Resources-

HR1: Suggest ways to keep performance records of remote interns involving use of certain specific apps/websites.

HR2: Make a mechanism to curate feedback of interns once they de-board the company.

HR3: As the interns work remotely, suggest ways to ensure their involvement in work and how keep them motivated (they often lose the enthusiasm and steam with time).

HR4: What possible hierarchical structure could work best for remote interns, that is, how teams should be made, what should be ideal team size, how many team leads would be required?

Business plan making

BM1: Draft a business plan for a start-up that is primarily based online. Make sure to include all necessary elements of a B-plan.

BM2: Draft a business plan for a setup offering career counselling services.

Proposal making

PM1: Draft a sales proposal for online career counselling services as provided by www.careerguide.com

PM2: Draft a business proposal for pitching a start-up

PM3: Make a proposal for incorporating use of websites/applications in project management rather than manual maintenance of spreadsheets and documents.

Video editing

Any one of the following

VE1: Develop a video for announcement and promotion of a webinar on “How start-ups work” by www.stirringminds.com

VE2: Create a short video for social media promotion of www.stirringminds.com. Include the necessary graphics and effects.

VE3: Create a video highlighting online career counselling services provided by www.careerguide.com

VE4: Develop a video animation that conveys the message of “Stirring Minds offers best co-working spaces”

VE5: Develop a video showing the need of ONLINE career guidance in the current situation of lockdown.