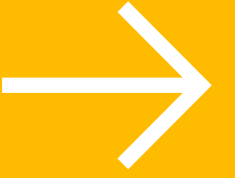
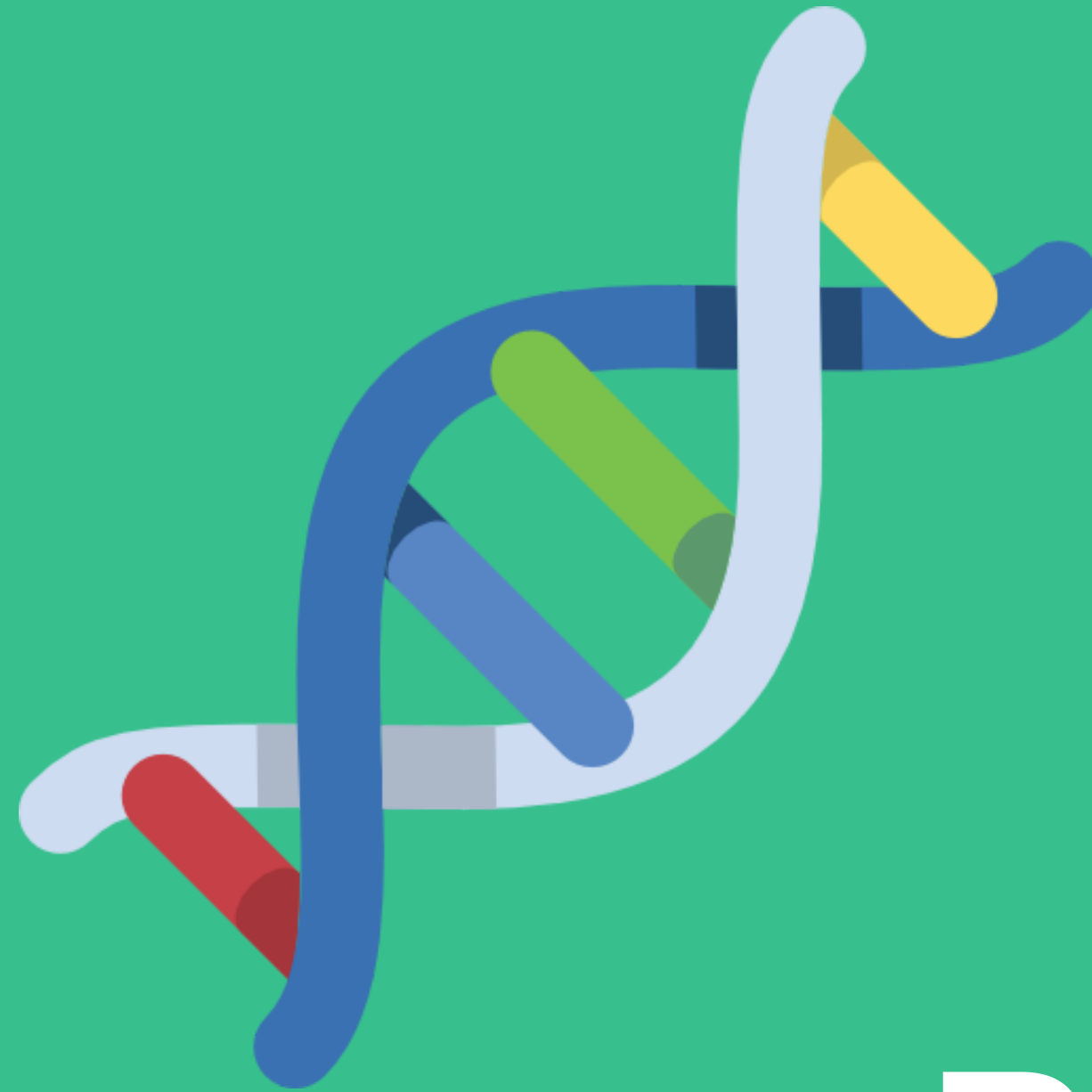


GROUP 2



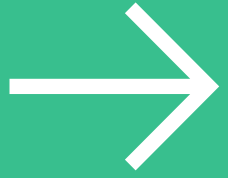
CLASSIFICATION



PROJECT 2

VARIANT





Member Group



**NOOR HANNANI SYAMIMI BINTI
MOHD SUFFIAN**
A21EC0104



AIN BATRISYIA BINTI NORAZLAN
A21EC0009



LEE RONG XIAN
A21EC0043



**MUHAMMAD AKMAL BIN SHAMSUL
HAMIDI**
A21EC0057



**SITI NURKAMILAH BINTI SAIFUL
BAHARI**
A21EC0131

Introduction



Our project will be focused on the Fourth Industrial Revolution technology, which is machine learning

The machine learning that we choose is tertiary analysis.

Tertiary analysis in bioinformatics refers to the application of advanced computer to analyze sequencing results retrieved from raw genetic data.

AWS speeds up the study of enormous genomics data by combining machine learning and supercomputing

This project provides a model that can predict whether a variant has conflicting classifications

Problem



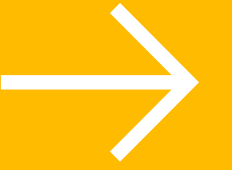
Create a machine-learning model based on tertiary analysis to predict if a variant has a conflicting classification.

Researchers take too much time looking for the conflict in the classification of the genomic variant.

Determine whether a DNA variant causes disease

DEMAND:

- Utilize tertiary analysis to classify variants
- High performance in multiple genes and different health conditions.



Solution

Develop a low fidelity
machine learning
prototype

Use Amazon Web
Service (AWS)

Use the services
provided by AWS



Predict the existence
of a conflicting
categorisation for a
variant

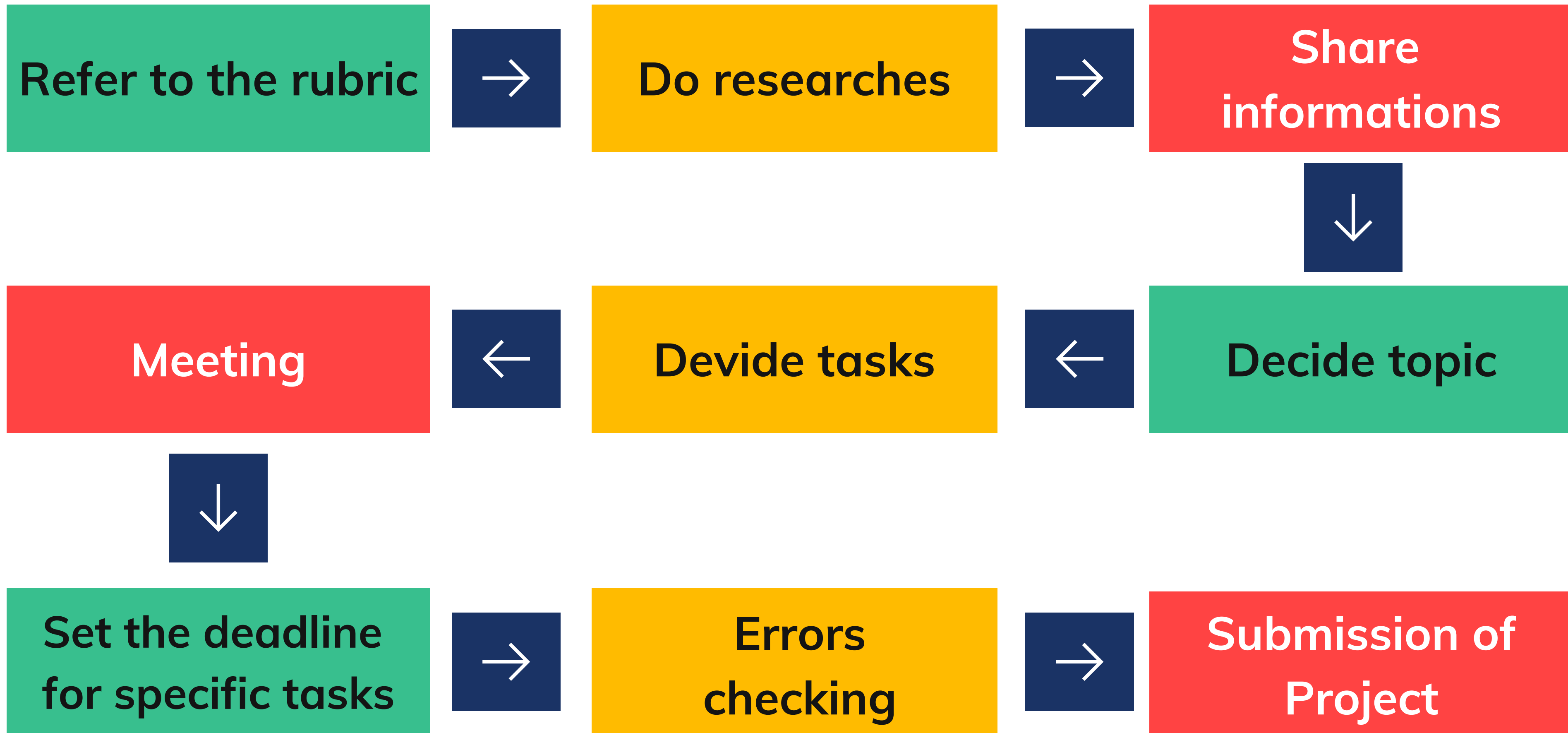
AWS gives many
benefits to run
genomics analysis

Team Working

-gathering ideas-



Discussion mediums: Whatsapp & Google Meet



Share informations

Nani



Vetted Technology | AWS Solutions Library
aws.amazon.com

<https://aws.amazon.com/solutions/>

AstraZeneca Case Study

Using AWS, biopharmaceutical company AstraZeneca built a cloud-based, efficient, scalable solution that processes genomics sequencing data quickly.

aws.amazon.com

[https://aws.amazon.com/solutions/case-studies/astrazeneca/?
did=cr_card&trk=cr_card](https://aws.amazon.com/solutions/case-studies/astrazeneca/?did=cr_card&trk=cr_card)

2:09 PM ✓✓

Nani



Vetted Technology | AWS Solutions Library
aws.amazon.com

<https://aws.amazon.com/solutions/>

2:02 PM



Genomics Tertiary Analysis and Machine Learning Using Amazon SageMaker | Implementations | AWS Solutions
Create a platform in the AWS Cloud to build machine learning models on
aws.amazon.com

[https://aws.amazon.com/solutions/implementations/genomics-tertiary-
analysis-and-machine-learning-using-amazon-sagemaker/](https://aws.amazon.com/solutions/implementations/genomics-tertiary-analysis-and-machine-learning-using-amazon-sagemaker/)

10:41 PM ✓✓

UTM-Kamilah

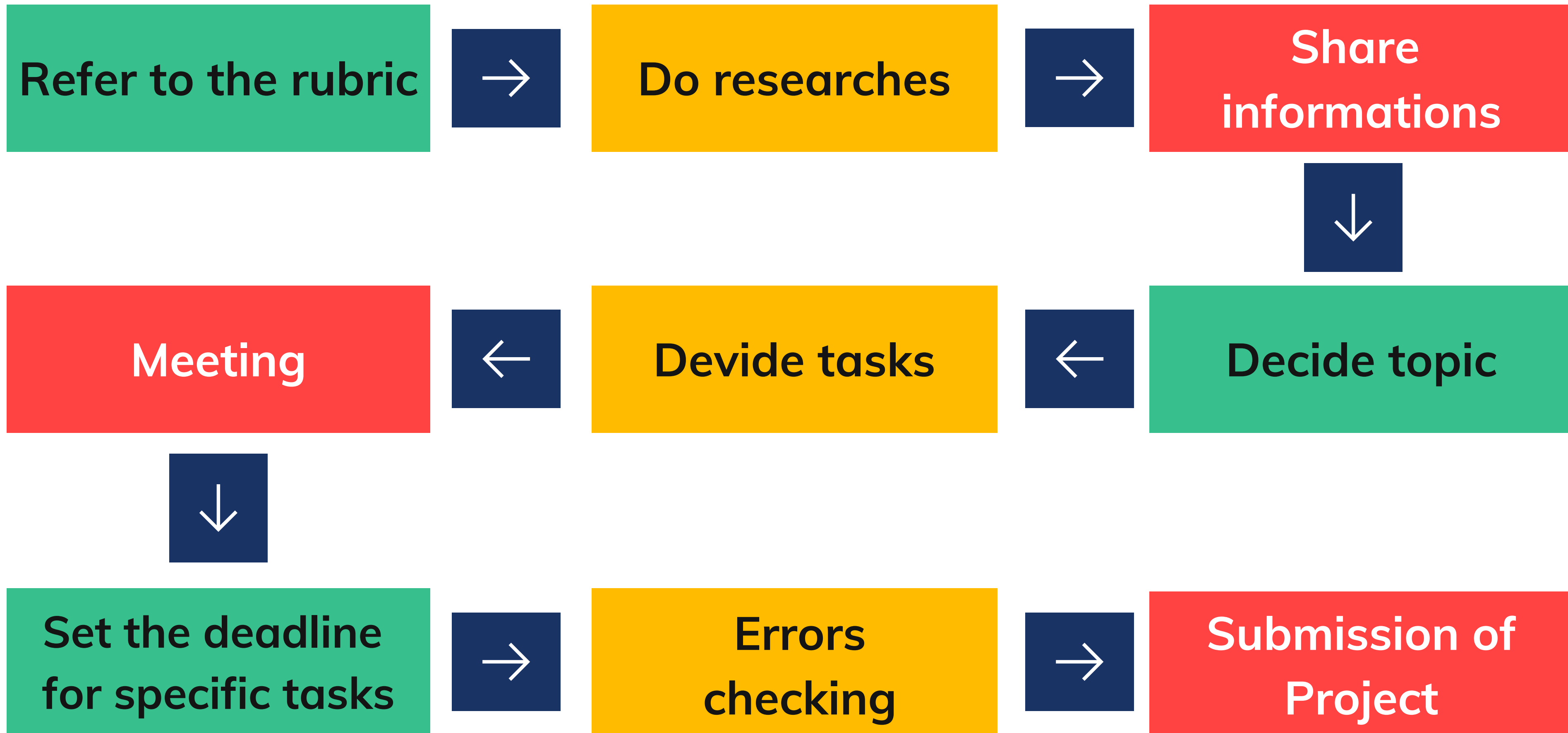


Genomics in the Cloud | Healthcare & Life Sciences | Amazon Web Services
AWS enables genomic organizations to stay agile, scale their business,
aws.amazon.com

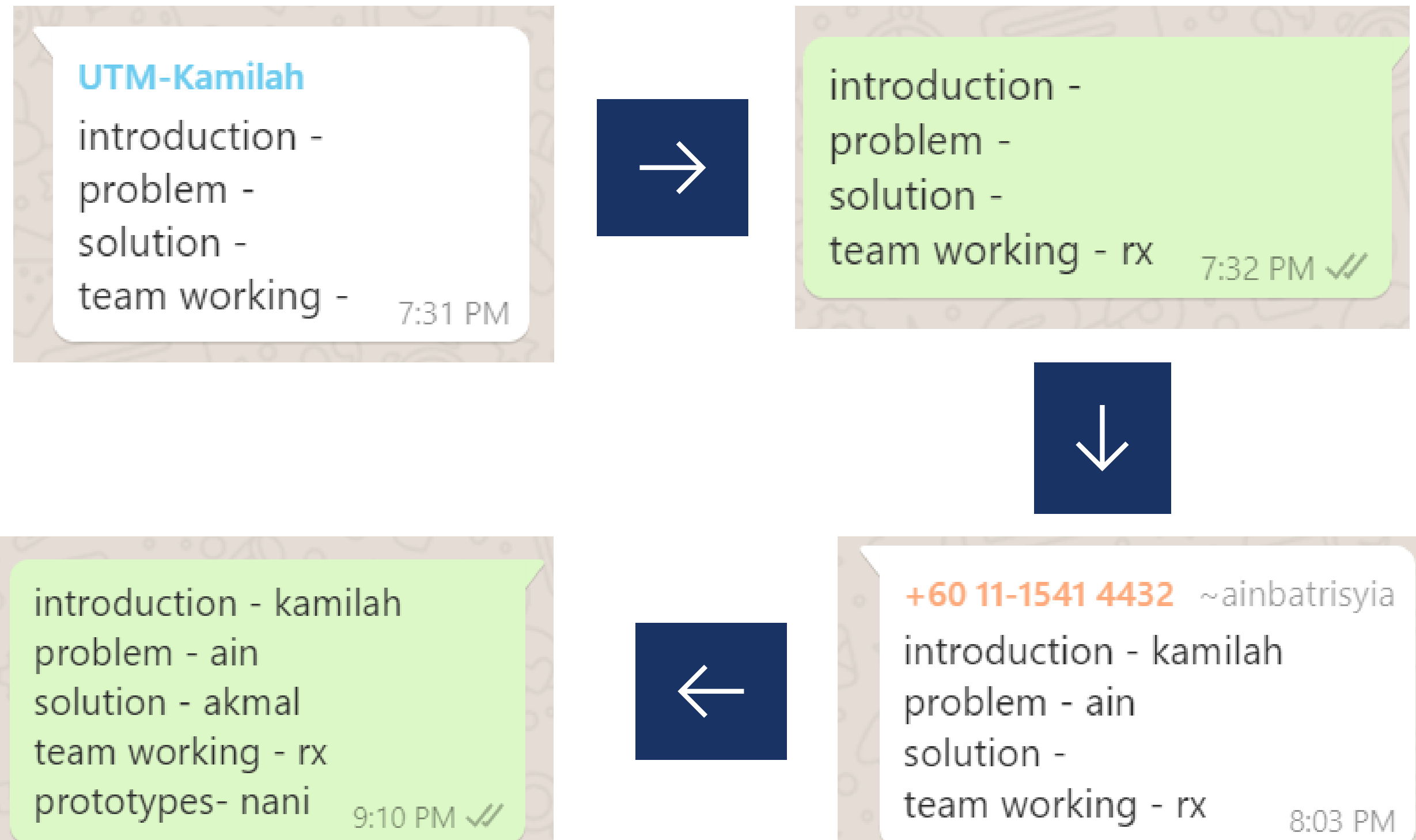
<https://aws.amazon.com/health/genomics/>

2:06 PM

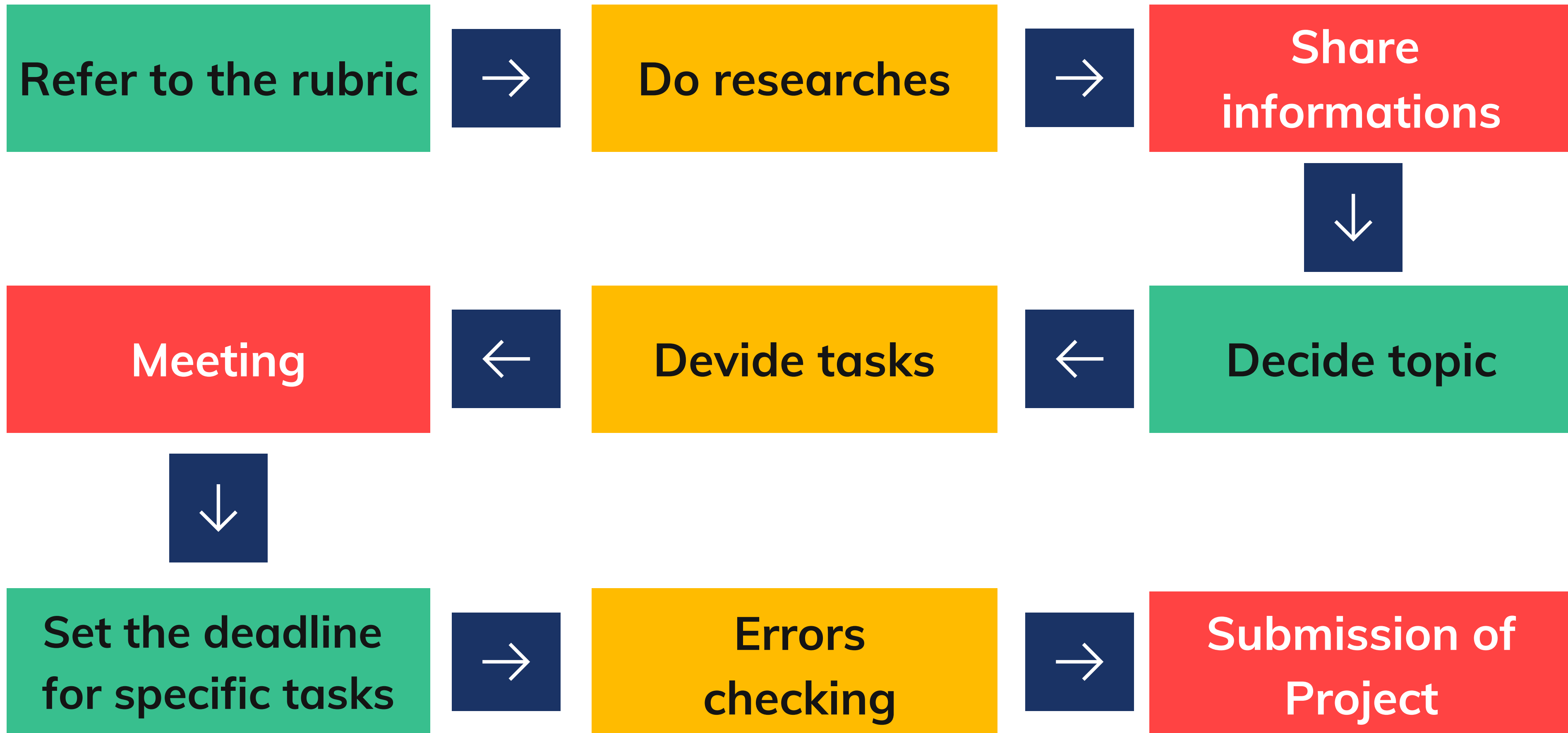
Discussion mediums: Whatsapp & Google Meet



Divide tasks



Discussion mediums: Whatsapp & Google Meet

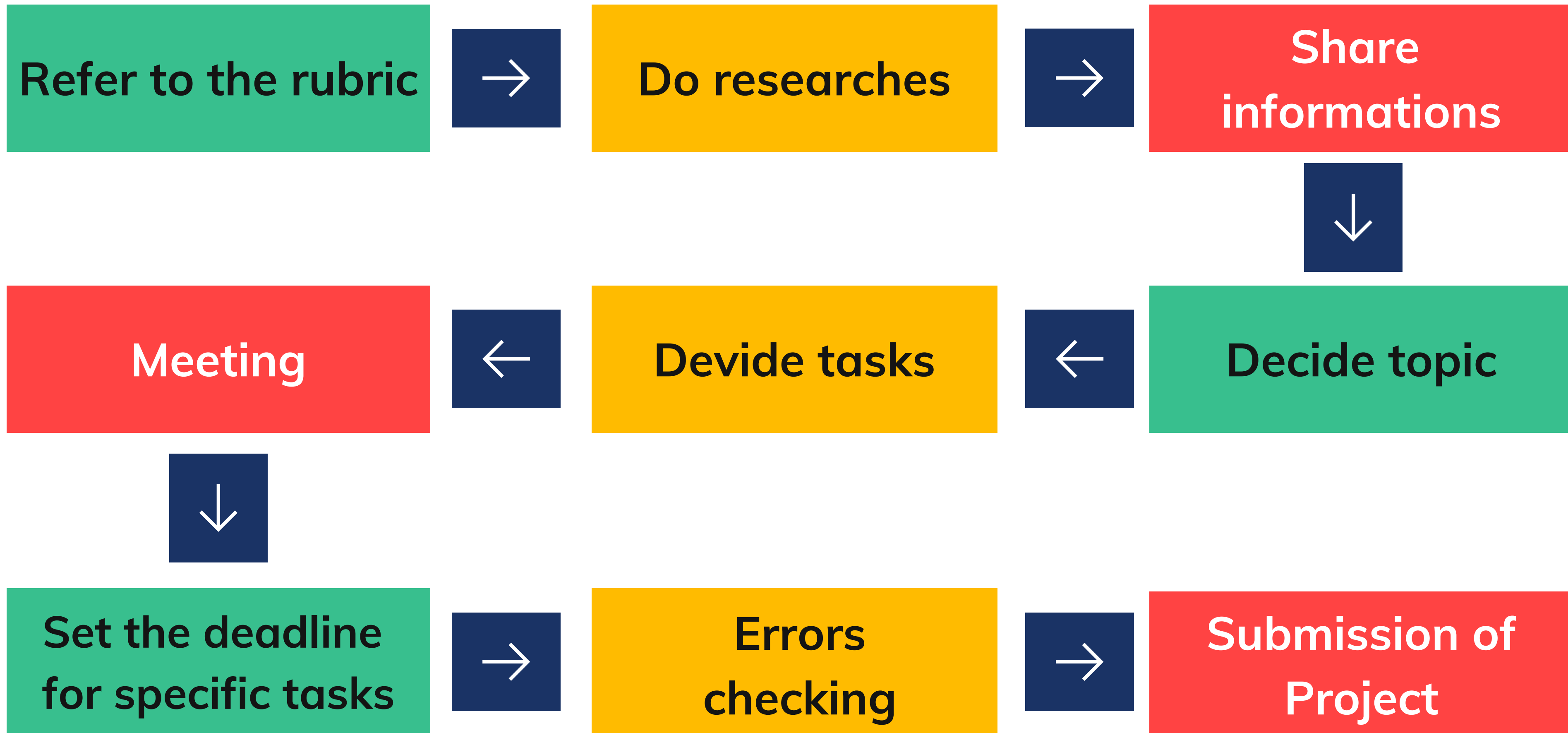


Meeting

The screenshot displays a Zoom meeting interface. At the top, a banner indicates that "NOOR HANNANI SYAMIMI BINTI MOHD SUFFIAN A21EC0104 is presenting". The main window shows a presentation titled "Variant Classification" with a grid of ten thumbnail images representing different slides. The thumbnails are arranged in two rows of five. The first row includes thumbnails for a "Welcoming Page", "Main page", "Variant Classification", "Search Page Bar menu", and "Report 1". The second row shows more detailed views of the "Search" and "Report" sections. To the right of the presentation, there is a gallery of participant video feeds. The participants visible are NOOR HANNANI SY..., LEE RONG XIAN A2..., Ain Norazlan, Akmal Midi, and a smaller feed labeled "You" at the bottom. The bottom of the screen features a toolbar with icons for microphone, video, chat, and other meeting controls, along with a timestamp of "10:12 AM" and the meeting ID "oam-czuc-wrm".

-To make sure everyone understands and clear what they are doing

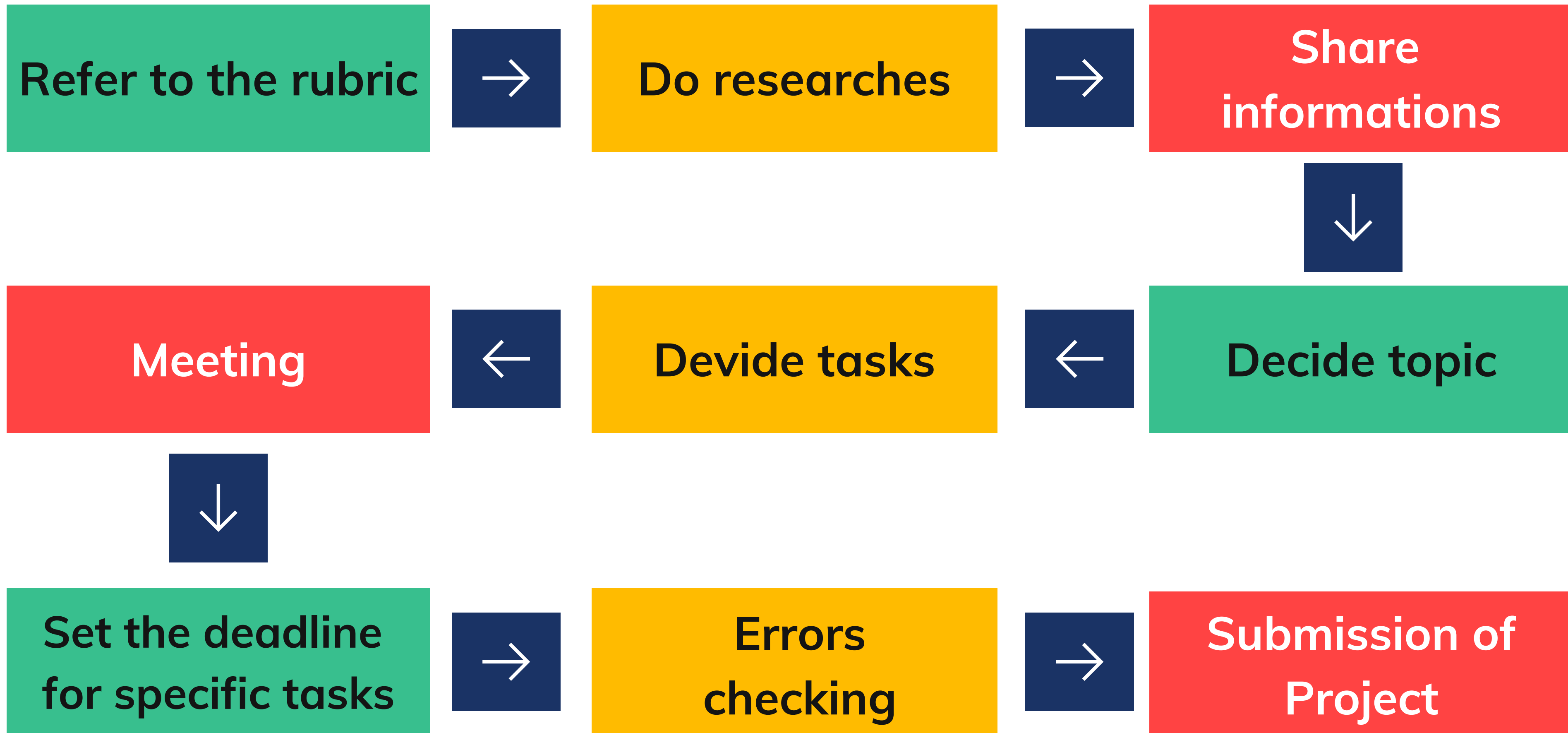
Discussion mediums: Whatsapp & Google Meet



Set the deadline for specific tasks

2. Detail steps and descriptions related to the project e.g use the video, image, and log journal, team progress, brainstorm idea, and others.
-submit by Thursday before 9.30pm (rongxian)
3. Detailed descriptions include problem, solution, and team working.
-submit by Thursday before 9.30pm (Ain)
4. This project must have a business process flow diagram and description.
- submit by Thursday before 9.30pm(Akmal)
5. Provides low-fidelity mock-ups.
-submit by Wednesday before 11pm (Hannani)
6. Video
-submit by Saturday before 2pm
(kamilah)

Discussion mediums: Whatsapp & Google Meet

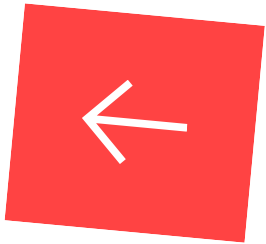
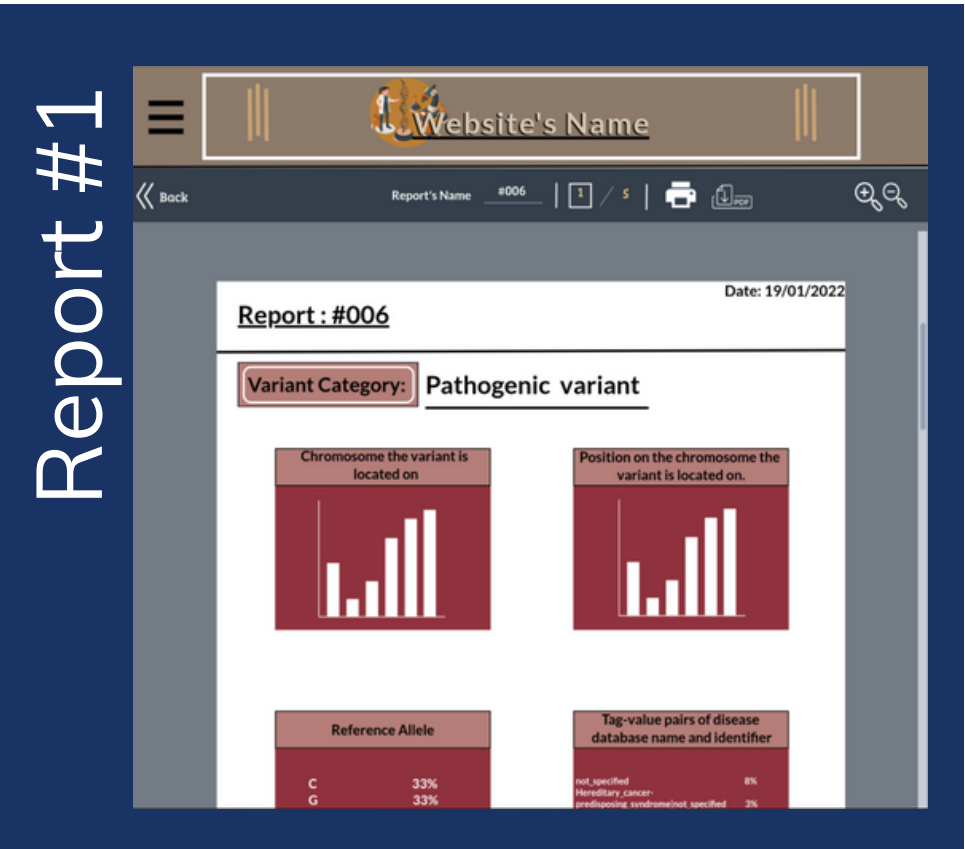
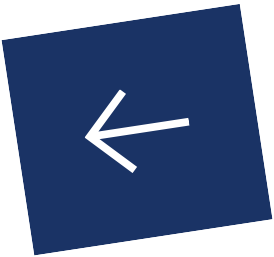
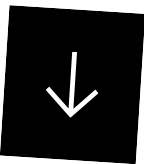
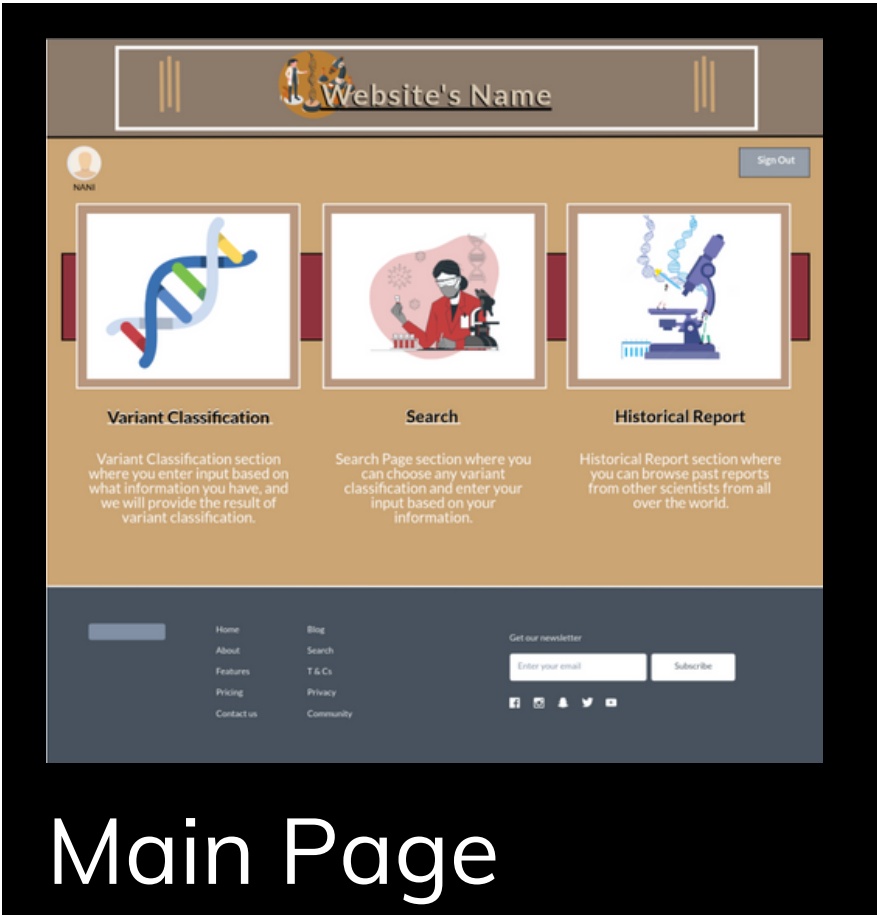


LOW FIDELITY MOCK-UP



Low Fidelity Mock-Up

Continue Next slide



Continue Here

Website's Name

Category: Likely pathogenic variant

Report

Report #120

Report #891

Report #112

Report #123

Report #789

Page

Search Result

Website's Name

Report's Name #542

Report : #542

Variant Category: Likely benign variant

Chromosome the variant is located on

Position on the chromosome the variant is located on.

Reference Allele

Tag-value pairs of disease database name and identifier

Report #2

Website's Name

Historical Report

Report #001

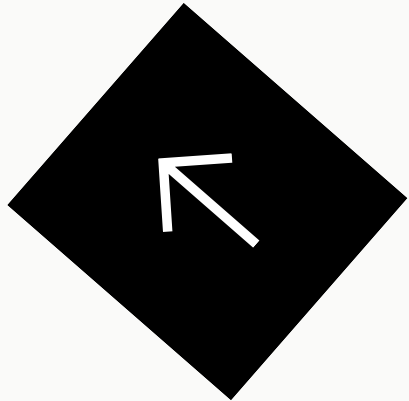
Report #002

Report #003

Historical Report

Page

End



Website's Name

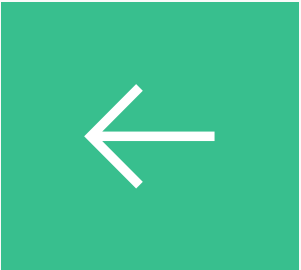
Welcome To Variant Classification

Webpage

Sign in

Watch how we work

Sign Out Page



Website's Name

Report's Name #001

Report : #001

Variant Category: Benign variant

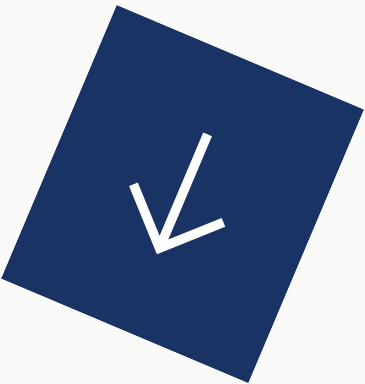
Chromosome the variant is located on

Position on the chromosome the variant is located on.

Reference Allele

Tag-value pairs of disease database name and identifier

Report #3





*Thank
you!*