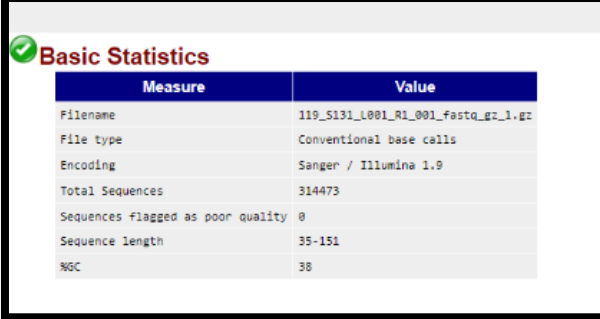


BIOINFORMATICS ASSIGNMENT 2 (Day 6 - 10)

NGS DATA QUALITY CHECK (DAY 6)

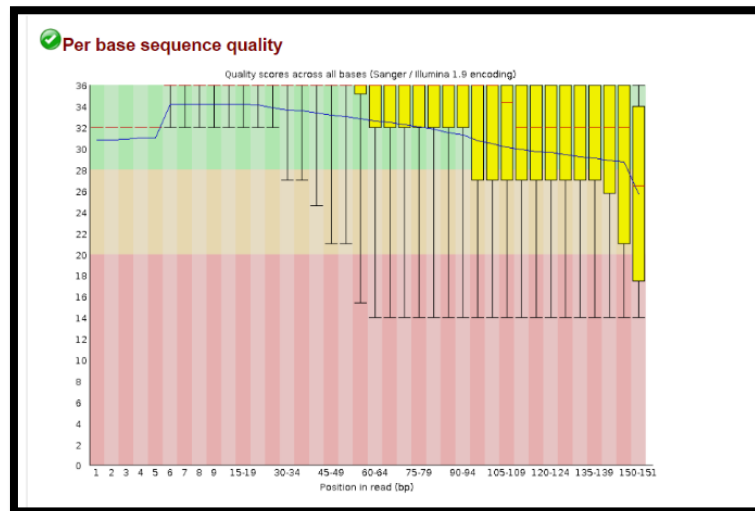
1. SRA accession number: **SRR24518780**
2. NGS platform and layout: Illumina platform, Paired layout.
3. Basic statistics: (insert an image with summary):



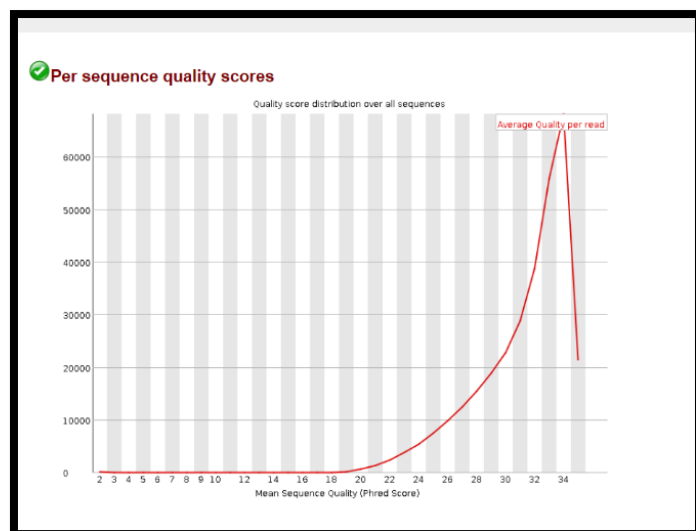
A screenshot of a 'Basic Statistics' summary table. It features a green checkmark icon and a title 'Basic Statistics' in red. The table has two columns: 'Measure' and 'Value'. The data includes filename, file type, encoding, total sequences, sequences flagged as poor quality, sequence length, and %GC.

Measure	Value
Filename	119_S131_L001_R1_001_fastq.gz.1.gz
File type	Conventional base calls
Encoding	Sanger / Illumina 1.9
Total Sequences	314473
Sequences flagged as poor quality	0
Sequence length	35-151
%GC	38

4. Per Base sequence quality: (insert an image with summary)



5. Per sequence quality score: (insert image with summary)



GitHub (DAY 7)

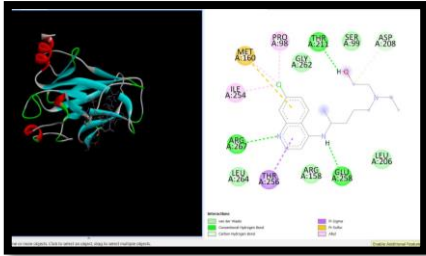
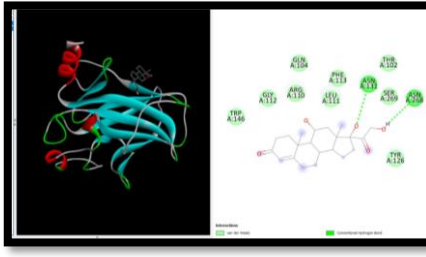
Please paste your GitHub account link - <https://github.com/YashashreeBedre>

Molecular Docking (DAY 8 and 9)

Protein Name: TUMOR SUPPRESSOR P53 COMPLEXED WITH DNA

Protein ID – 1TUP

Ligand Name	Ligand ID	Energy value	Dock Image - 2D
dexamethasone	5754	-6.4	

hydrochloroquine	3652	-5.2	
hydrocortisone	5743	-6.9	

Cancer therapy(DAY 10)

Cancer type	Hallmarks	Drug	Mechanism of drug
Breast Cancer	Uncontrolled cell growth in breast tissue, formation of tumors.	Tamoxifen	Tamoxifen is a selective estrogen receptor modulator (SERM) that blocks the estrogen receptor, preventing estrogen signaling and inhibiting tumor growth.
Lung Cancer	Abnormal cell proliferation in lung tissue, formation of tumors.	Cisplatin.	Cisplatin is a platinum-based chemotherapy drug that binds to DNA, causing cross-links and inhibiting cell division.
Prostate Cancer:	Abnormal cell growth in the prostate gland,	Leuprolide	Leuprolide is a hormone therapy drug that suppresses

	formation of tumors.		the production of testosterone, which fuels prostate cancer growth.
Colorectal Cancer	Uncontrolled cell growth in the colon or rectum, formation of polyps.	Bevacizumab (Avastin)	Bevacizumab is a monoclonal antibody that targets vascular endothelial growth factor (VEGF), inhibiting angiogenesis (formation of blood vessels) and starving the tumor of blood supply.
Pancreatic Cancer	Uncontrolled cell growth in the pancreas, formation of tumors.	Gemcitabine	Gemcitabine is a chemotherapy drug that interferes with DNA synthesis, leading to cell death.