Computer Science Project File

Bhavana Kumar

XII-A

Index

Certificate

This is to certify that the project entitled '**Helix**' has been submitted by Bhavana Kumar, a student of class XII-A for the academic session 2021-21. He has completed the project work under direct supervision of the undersigned as per the requirement for the Board Examination.

Acknowledgement

For the accomplishment of the project, I would like to take this opportunity to express gratitude to Mrs. Ruchi Arya who has been helping me in this project and supported us. It is to her I owe my deepest gratitude. It gives me immense pleasure in presenting the project **“Helix”.**

Thank You,

Bhavana Kumar

Requirements

- Hardware :
    - PC
    - Keyboard
    - Mouse
    - Printer
- Software :
    - IDLE(Python 3.8 64 bit)
    - Snipping tool
    - Word File
    - MySQL 5.5 Command Line Client

Libraries Imported

1. Pandas
2. Chatterbot

ABOUT ‘HELIX’

The given project is Helix Chatbot. It has been made using the libraries Chatterbot and Pandas. Helix Chatbot is a user friendly program that receives a query from the user and executes it by sourcing data from a CSV file and displays it. The CSV file has been formed using mysql.connector and hosts the data about 36 students and their marks. The Helix chatbot sources the data required from the CSV file by using simple commands from the user.

This makes the task easier for the user as he or she doesn’t have to scan through the data for a required value, they can simply use the Helix Chatbot using the student roll number or name.

The chatbot stores all its memory data in a MySQl database and this is done intentionally by the chatbot and doesn’t require any coding from the programmer and using the SQL Storage Adapter. It also uses the logic adapters ‘Best Match’, ’Mathematical Evaluation’ and ‘Law Confidence’ adapter set at threshold value operating system.

Simply, the Helix has been trained for particular queries to give the required data.

CODE

A) PYTHON

```
from chatterbot import ChatBot
from chatterbot.trainers import ChatterBotCorpusTrainer
from chatterbot.trainers import ListTrainer

#creating the chatbot with required logic adaptors
bot = ChatBot(
    'Terminal',
    storage_adapter='chatterbot.storage.SQLStorageAdapter',
    logic_adapters=[
            "chatterbot.logic.MathematicalEvaluation",
        {
            'import_path': 'chatterbot.logic.BestMatch'

        },
        {
            'import_path': 'chatterbot.logic.LowConfidenceAdapter',
            'threshold': 0.8,
            'default_response': 'I am sorry, but I do not understand.'
        }
    ],
    input_adapter="chatterbot.input.TerminalAdapter",
    output_adapter="chatterbot.output.TerminalAdapter"
)
import pandas as pd

# Importing the database
database = pd.read_csv('student.csv', sep=',')

rollno = database['Roll_No']
name = database['Name']
age = database['Age']
gender = database['Gender']
marks = database['Marks']
lowest_name = ''
lowest_rollno = ''
topper_name = ''
topper_rollno = ''
no_of_failures = 0
ppl_over_95=0
ppl_over_90=0
ppl_over_80=0

for i in range(0,len(marks)):

  if marks[i] == min(marks):
    lowest_name = name[i]
    lowest_rollno = rollno[i]
```

```
  if marks[i] == max(marks):
    topper_name =topper_name+','+name[i]

  if marks[i] <= 33 :
    no_of_failures = no_of_failures + 1

  if marks[i] >= 95:
    ppl_over_95 = ppl_over_90 + 1

  if marks[i] >= 90:
    ppl_over_90 = ppl_over_80 + 1

  if marks[i] >= 80:
    ppl_over_80 = ppl_over_80 + 1

#training of bot
#trainer = ChatterBotCorpusTrainer(bot)
#trainer = ListTrainer(bot)

bot.set_trainer(ChatterBotCorpusTrainer)
bot.train("chatterbot.corpus.english")
bot.set_trainer(ListTrainer)

for i in range(0,len(marks)):

  bot.train([
            "give me the complete details of roll number
{}".format(rollno[i]),
            "\nHere are the details:Roll No.: {}; Name: {}  Age: {}
Gender: {}  Marks: {}  ".format(rollno[i], name[i], age[i], gender[i],
marks[i]),
            "complete details of roll number {}".format(rollno[i]),
            "\nHere are the details:Roll No.: {}; Name: {}  Age: {}
Gender: {}  Marks: {} ".format(rollno[i], name[i], age[i], gender[i],
marks[i]),
            "full details of roll number {}".format(rollno[i]),
            "\nHere are the details : Roll No.: {}; Name: {}  Age: {}
Gender: {}  Marks: {} ".format(rollno[i], name[i], age[i], gender[i],
marks[i]),
            "give all details of roll number {}".format(rollno[i]),
            "\nHere are the details : Roll No.: {}; Name: {}  Age: {}
Gender: {}  Marks: {}  ".format(rollno[i], name[i], age[i], gender[i],
marks[i])
    ])
  bot.train([
        "what is the marks of roll number {}".format(rollno[i]),
        "Marks of {} - {} is {}".format(rollno[i], name[i], marks[i]),
        "tell me marks of roll number {}".format(rollno[i]),
        "Marks of {} - {} is {}".format(rollno[i], name[i], marks[i]) ])

  bot.train([
        "what is the marks of {}".format(name[i]),
        "Marks of {} is {}".format(name[i], marks[i]),
```

```
        "tell me marks of {}".format(rollno[i]),
        "Marks of {} is {}".format(name[i], marks[i]),
        "how much did {} score?".format(rollno[i]),
        "{} scored {}".format(name[i], marks[i])
         ])

  bot.train([
        "what is the age of roll number {}".format(rollno[i]),
        "Age of {}, roll no. {} is {}".format(name[i], rollno[i],
age[i])])

  bot.train([
        "what is the marks of {}".format(name[i]),
        "Marks of {} - {} is {} ".format(rollno[i], name[i], marks[i])])
  bot.train([
        "what is the age of {}".format(name[i]),
        "Age of {} - {} is {}".format(name[i], rollno[i], age[i])
        ])

bot.train(["what is the class average?",
           "The class average is {}".format(sum(marks)/len(marks)),
           "what is average score of class?",
           "The class average is {}".format(sum(marks)/len(marks)),
           "what is average marks of class?",
           "The class average is {}".format(sum(marks)/len(marks))
          ])

bot.train([
          "what is the lowest marks?",
          "The Lowest marks is {}.!".format(min(marks)),
          "who scored the lowest marks?",
          "{} scored the lowest marks.".format(lowest_name)
          ])

bot.train([
           "how many failures?",
           "Thankfully, No one failed. Phew ! ",
           "how many failed?",
           "Thankfully, No one failed. Phew !"
          ])
bot.train([
  "what is the highest marks?",
  "The highest marks is {}. Wow!".format(max(marks)),
  "how much did the topper score?",
  "The topper scored {}. Congratulations!".format(max(marks))
])

bot.train([
  "who got the highest marks?",
  "The highest marks is {}. Well done {}! ".format(max(marks),
topper_name)
])

bot.train([
```

```
  "who got the lowest marks?",
  "The lowest marks is {}, obtained by {}, roll number {} - Feel sad for
the chap".format(min(marks), lowest_name, lowest_rollno),
  "who got the lowest marks?",
  "The lowest marks is {}, obtained by {}, roll number {} - Feel sad for
the chap".format(min(marks), lowest_name, lowest_rollno)
])

bot.train([
   "Who all got above 95%"
   "{} people got over 95%.".format(ppl_over_95),
   "people over 90%"
   "{} people got over 95%.".format(ppl_over_95)
        ])

bot.train([
   "Who all got above 90%"
   "{} people got over 90%.".format(ppl_over_90),
   "people over 80%"
   "{} people got over 90%.".format(ppl_over_90)
        ])

bot.train([
   "Who all got above 80%"
   "{} people got over 80%.".format(ppl_over_80),
   "people over 80%"
   "{} people got over 80%.".format(ppl_over_80)
        ])
print("Training Complete")

bot.train("chatterbot.corpus.english")

CONVERSATION_ID = bot.storage.create_conversation()


def get_feedback():
  from chatterbot.utils import input_function
  text = input_function()
  if 'yes' in text.lower():
    return False
  elif 'no' in text.lower():
    return True
  else:
    print('Please type either "Yes" or "No"')
    return get_feedback()


print("\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\nHi, I'm Helix - The Chatbot\nThe sole reason Helix
was made,\nwas to provide you with aid!\n\nAsk me something!")
from chatterbot.utils import input_function

while True:
    try:
```

```
        input_statement = bot.input.process_input_statement()
        statement, response = bot.generate_response(input_statement,
CONVERSATION_ID)
        bot.output.process_response(response)
        print('\n')

    except (KeyboardInterrupt, EOFError, SystemExit):
        break
```

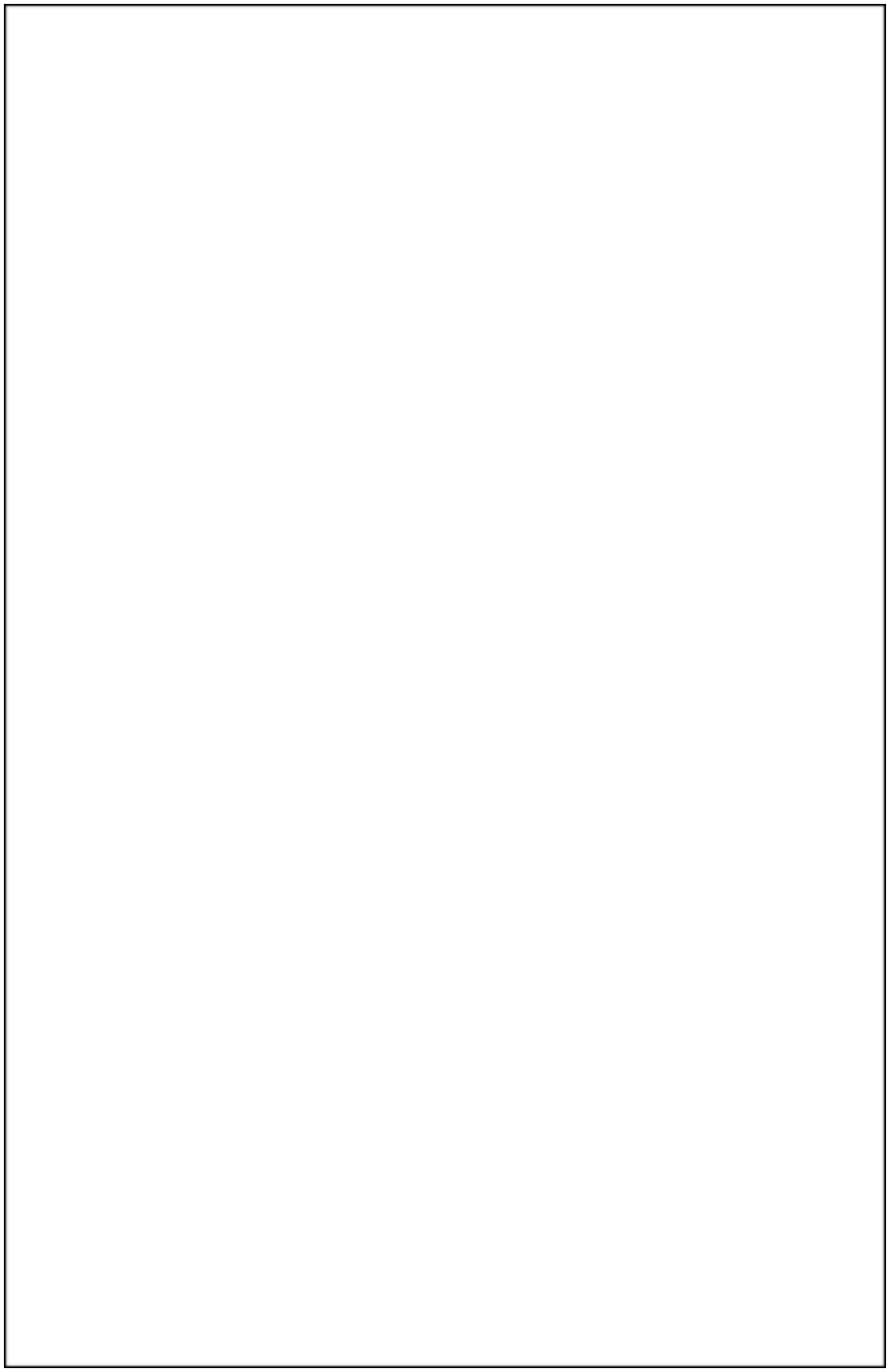
B) CSV

```
import csv
fields=['Roll_No','Name','Age','Gender','Marks']
rows=[
       ['1','Deepak Bohara','18','M','92'],
       ['2','Chelse','17','F','96'],
       ['3','Harshwardhan Tewani','18','M','85'],
       ['4','Sourabh Alimachandani','16','M','95'],
       ['5','Bhavana Kumar','17','F','99'],
       ['6','Yatin Sansalwal','17','M','87'],
       ['7','Devansh Mudgal','17','M','96'],
       ['8','Adnan Karim','17','M','93'],
       ['9','Karan Shanker','17','M','91'],
       ['10','Shreyas Hari Nambiyar','18','M','97'],
       ['11','C Srikanth','16','M','98'],
       ['12','Vedant Saini','17','M','89'],
       ['13','Ayush Kumar Gupta','17','M','94'],
       ['14','Kushal Rohella','17','M','91'],
       ['15','Sujay Sharma','16','M','80'],
       ['16','Mukul Jain','16','M','83'],
       ['17','Nachiketa Jha','18','M','91'],
       ['18','Pranav Mishra','18','M','91'],
       ['19','Ritu Kumari Saxena','17','F','94'],
       ['20','Rishita Mathur','17','F','83'],
       ['21','Ananya Bisht','17','F','85'],
       ['22','Hritvija Singh','16','F','94'],
       ['23','Nilesh Tyagi','16','M','92'],
       ['24','Aakarsh Nayan','18','M','91'],
       ['25','Priyashu Dubey','18','M','95'],
       ['26','Amaraditya Pradhan','17','M','95'],
       ['27','Madhav Pandey','17','M','92'],
       ['28','Ritika Singh','17','F','86'],
       ['29','Krish Chitlangia','17','M','99'],
       ['30','Saanya Mohanty','18','F','96'],
       ['31','Sukanta Bhunia','18','M','84'],
       ['32','Vinayak Nair','16','M','89'],
       ['33','Diksha Sharma','17','F','94'],
       ['34','Pratham Rana','17','M','92'],
       ['35','Jatin Upreti','17','M','86'],
       ['36','Arnav Anand','18','M','89']
```

```
      ]

with open('student.csv','w') as f:
    csv_w=csv.writer(f,delimiter=',')
    csv_w.writerow(fields)
    csv_w.writerows(rows)
    print("Record Updated of Class XII-A")
```

Output



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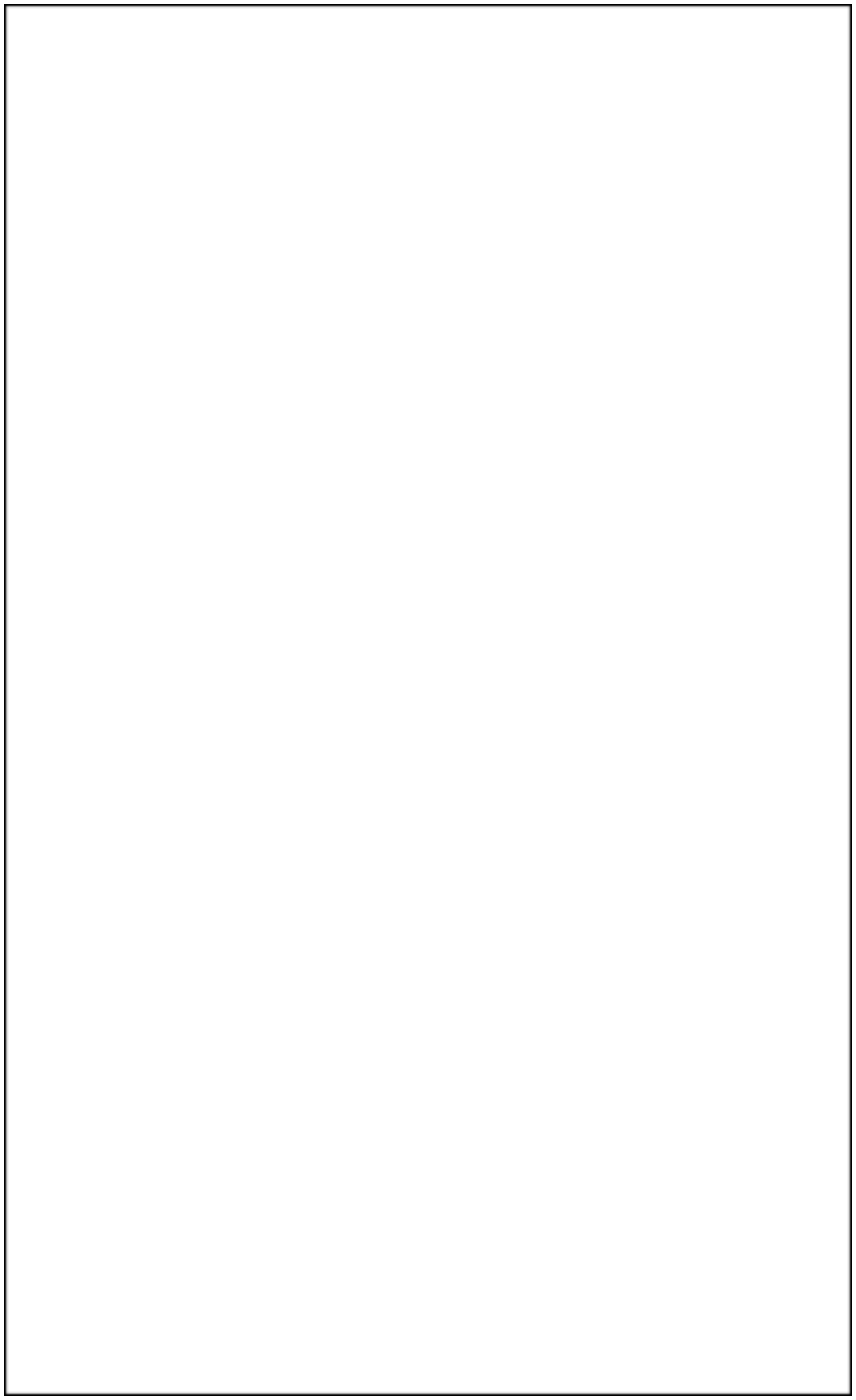

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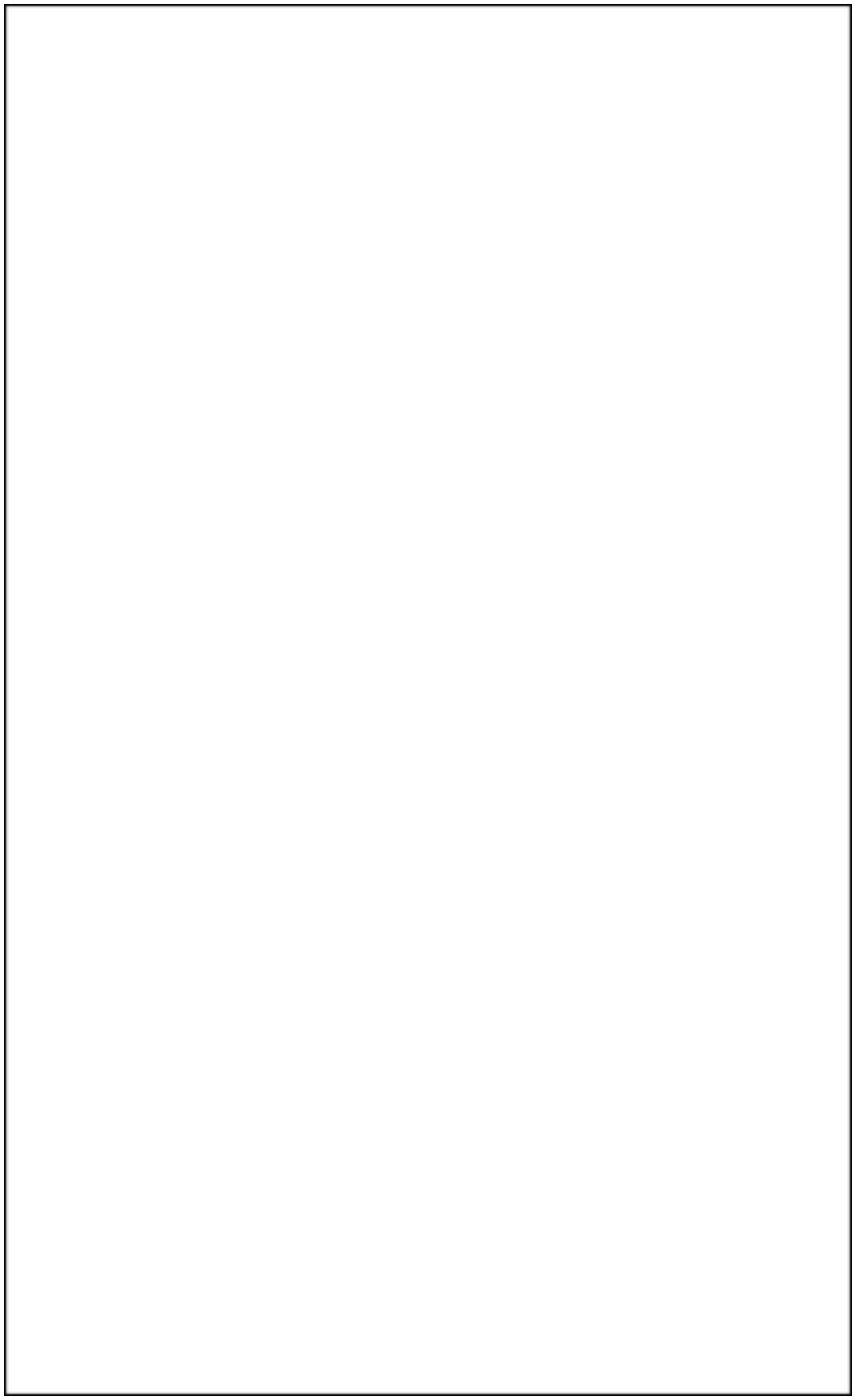

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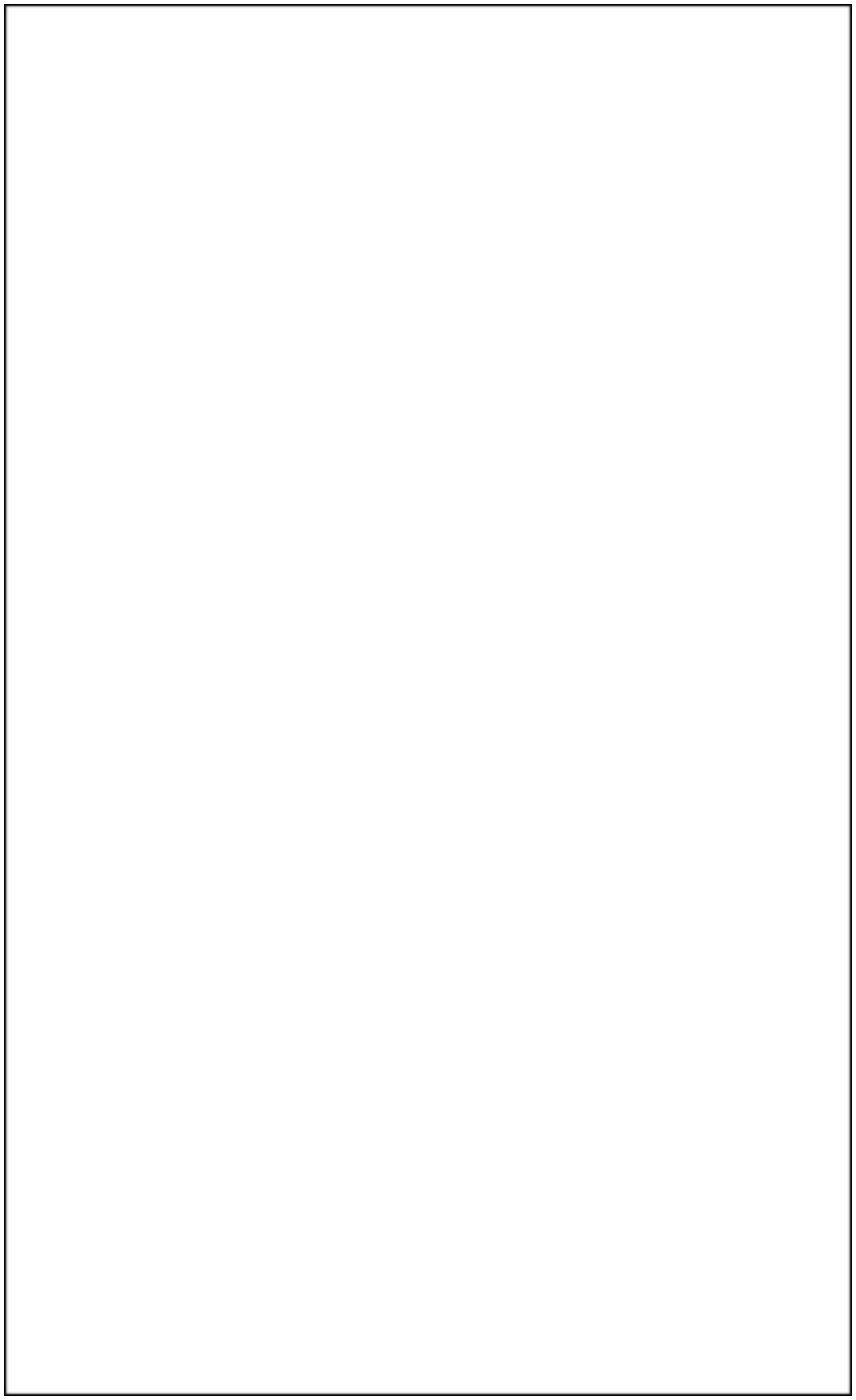

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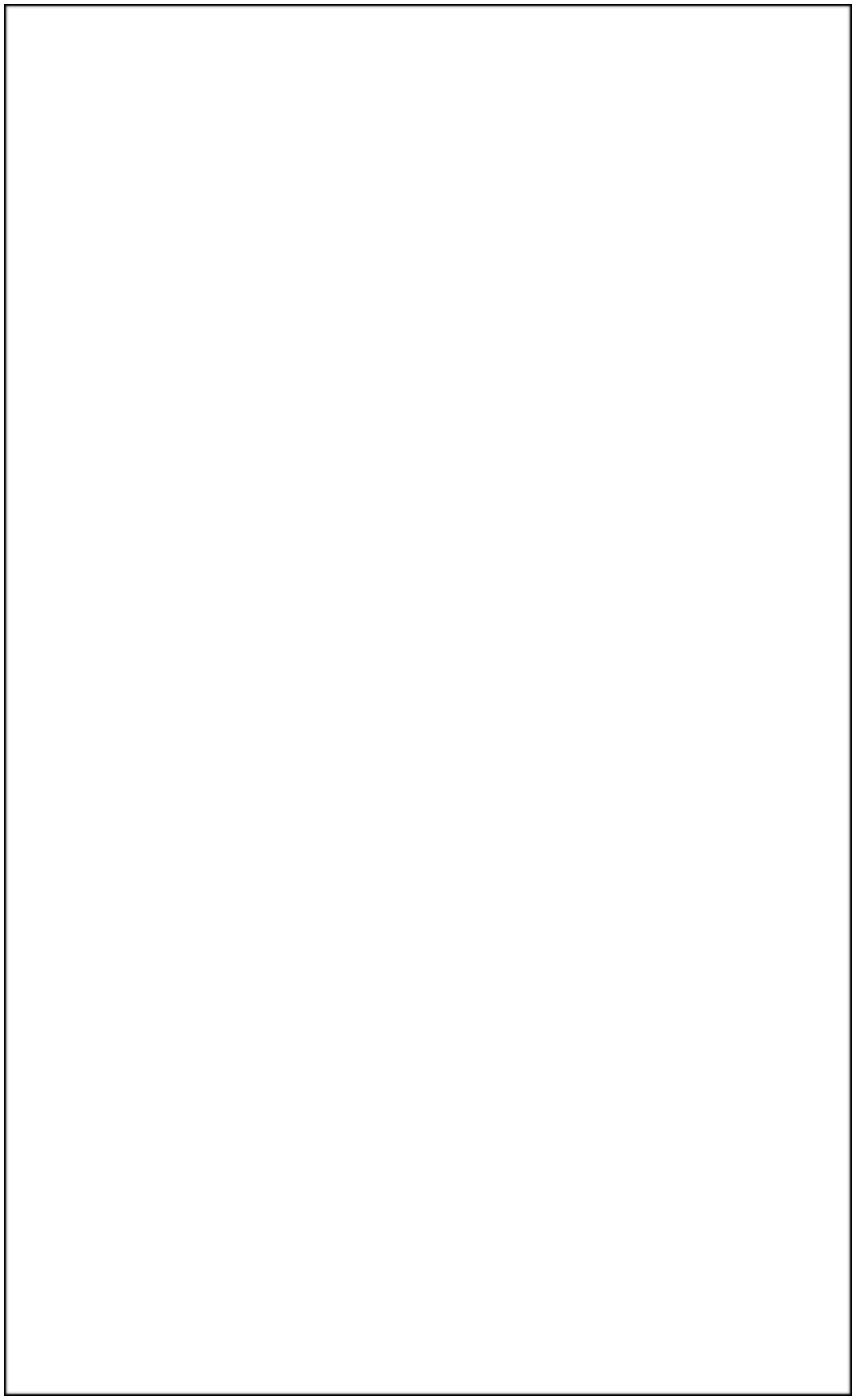

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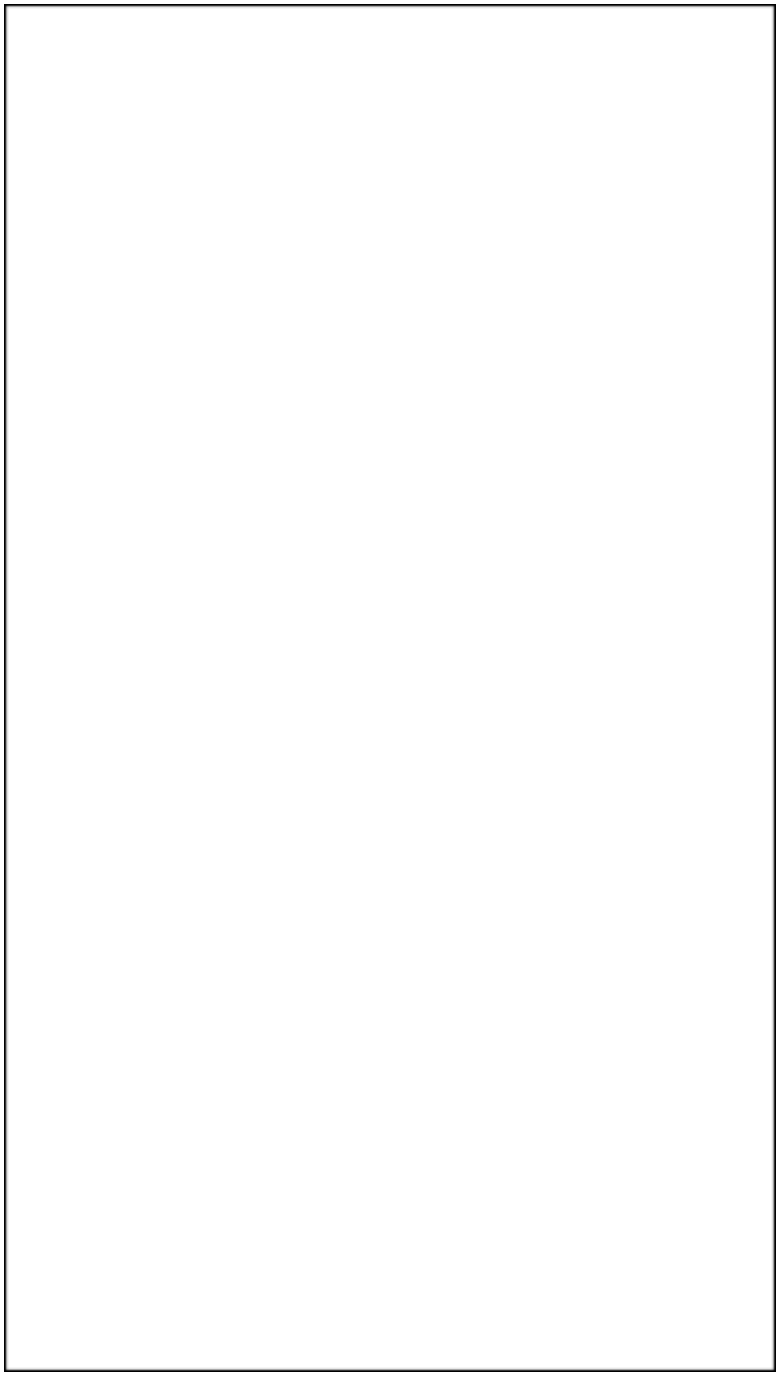

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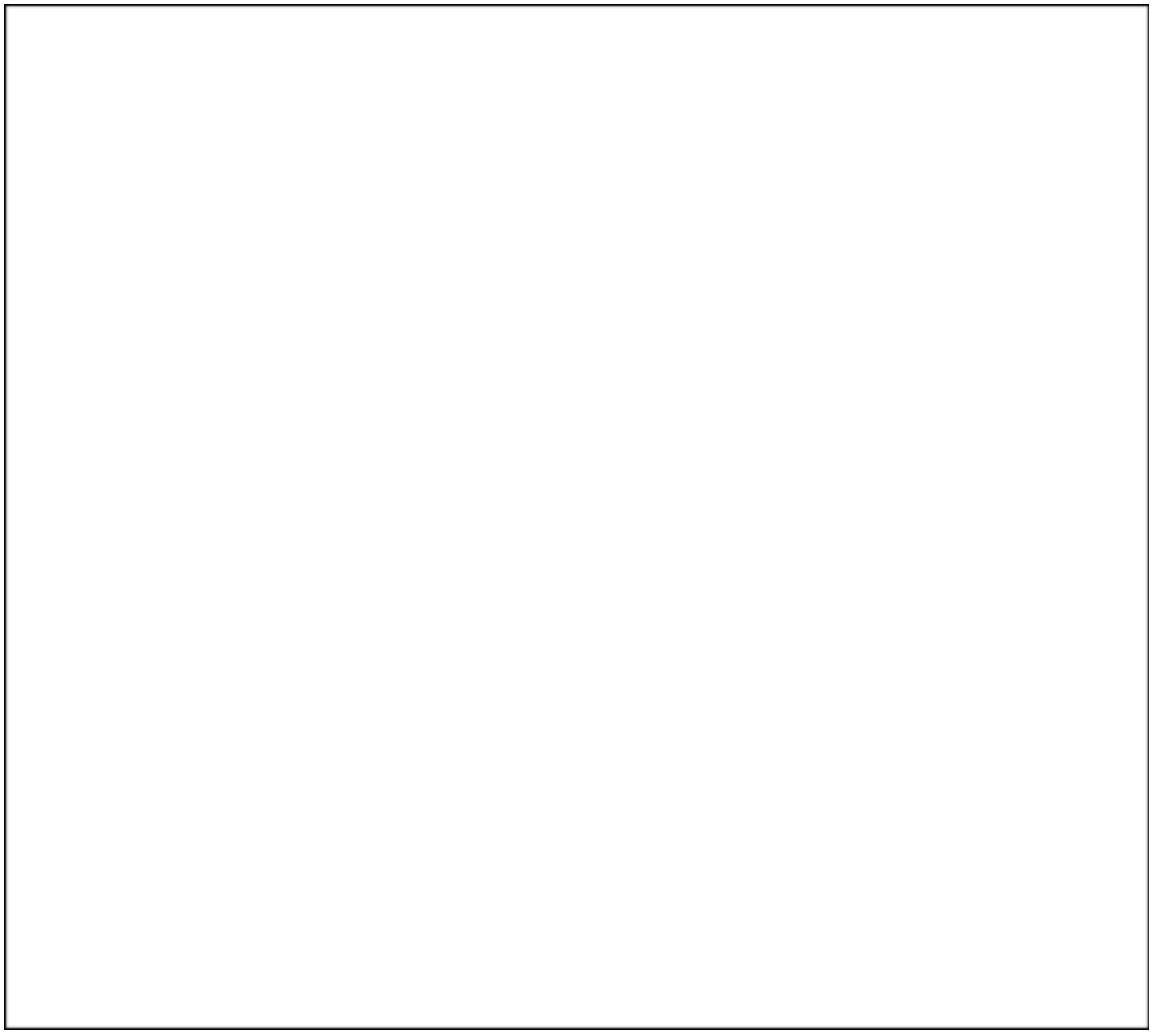
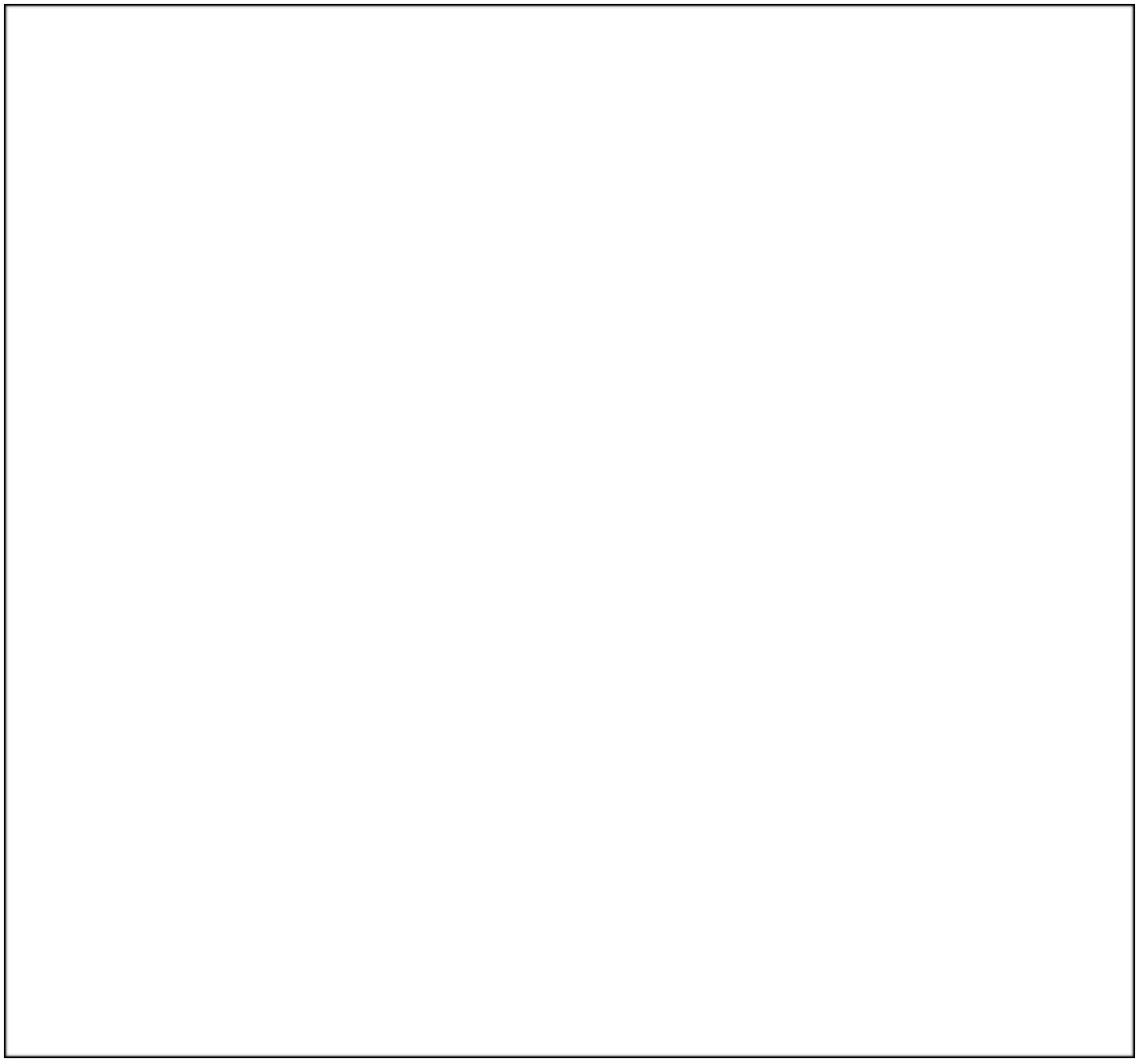
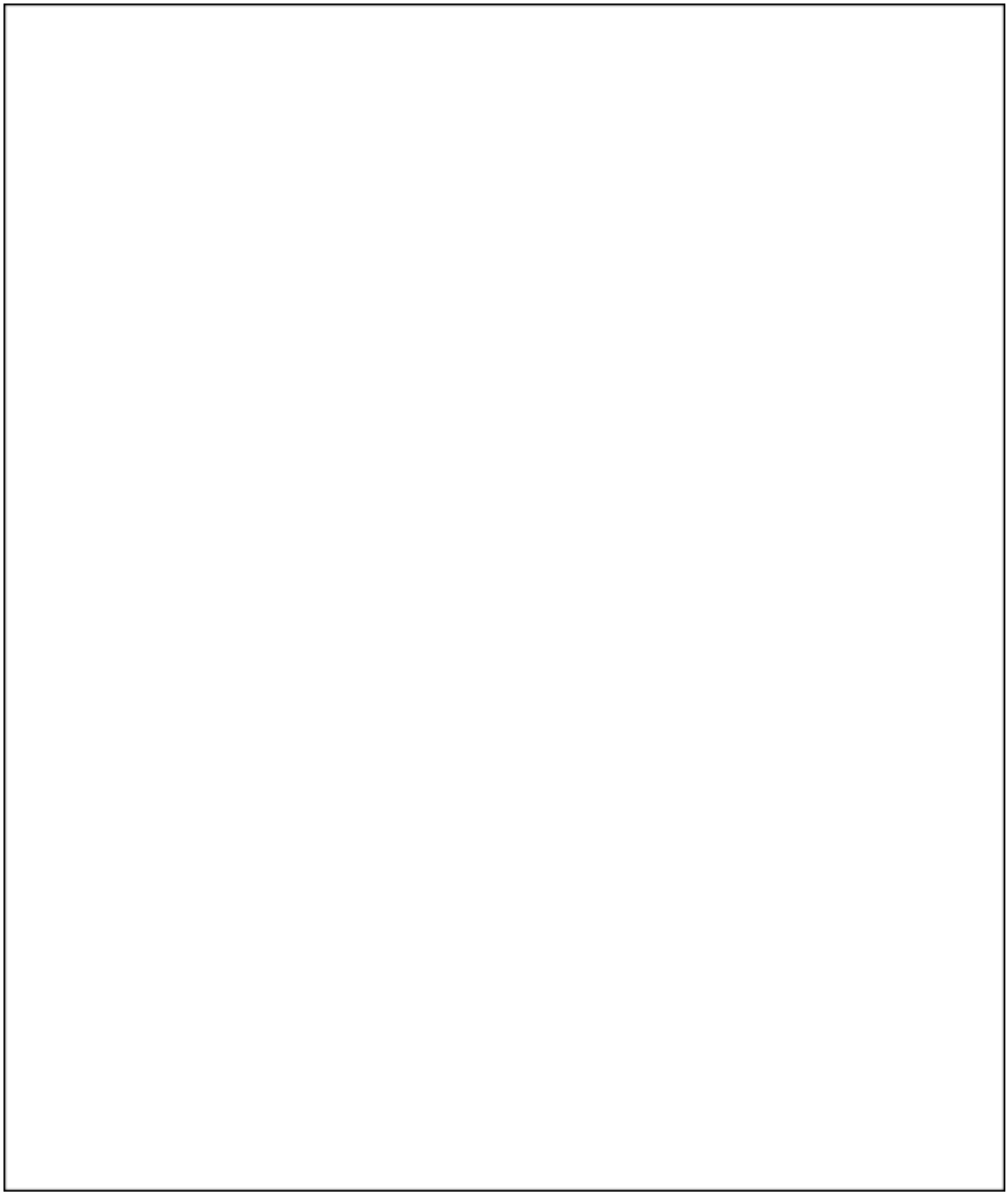


```
Hi, I'm Helix - The Chatbot
The sole reason Helix was made,
was to provide you with aid!

Ask me something!
hello
Hi


What is your name?
My name is Helix, the ChatBot! Here to help!


how can you help me?
I am your personal assistant, so I'll try my best to help you! I can solve any mathematical
equation, provide you with data from a database or even tell you a joke!


what do you eat?
Do you hate?


why can you not eat?
I am sorry, but I do not understand.


who are you?
Who? Who is but a form following the function of what


what are you?
I am but a man in a mask.


tell me a joke
Did you hear the one about the mountain goats in the andes? It was "ba a a a a a a d".


how are you?
I am doing well.
```



```
give me the complete details of roll number '1'
Here are the details:Roll No.: 1; Name: Deepak Bohara Age: 18 Gender: M Marks: 92


complete details of roll number '2'
Here are the details:Roll No.: 2; Name: Chelse Age: 17 Gender: F Marks: 96


full details of roll number '3'
Here are the details : Roll No.: 3; Name: Harshwardhan Tewani Age: 18 Gender: M Marks: 85


give all details of roll number '4'
Here are the details : Roll No.: 4; Name: Sourabh Alimachandani Age: 16 Gender: M Marks: 95


what is the marks of roll number '5'
Marks of 5 - Bhavana Kumar is 99


tell me marks of roll number '6'
Marks of 6 - Yatin Sansalwal is 87


what is the marks of Devansh Mudgal
Marks of Devansh Mudgal is 96


tell me marks of Adnan Karim
Marks of Adnan Karim is 93


how much did '9' score
Karan Shanker scored 91


what is the age of roll number '10'
Age of Shreyas Hari Nambiyar, roll no. 10 is 18


what is the marks of C Srikanth
Marks of C Srikanth is 98
```



```
what is the marks of C Srikanth
Marks of C Srikanth is 98


what is the age of Vedant Saini
Age of Vedant Saini - 12 is 17


what is the class average?
The class average is 91.22222222222223


what is the average score of the class?
The class average is 91.22222222222223


what is the lowest marks?
The Lowest marks is 80.!


who scored the lowest marks?
Sujay Sharma scored the lowest marks.


how many failed?
Thankfully, No one failed. Phew !


what is the highest marks?
The highest marks is 99. Wow!


how much did the topper score?
The topper scored 99. Congratulations!


who got the highest marks?
The highest marks is 99. Well done ,Bhavana Kumar,Krish Chitlangia!


who all got over ninety percent?
I am sorry, but I do not understand.
```

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