exam

1.a

The burgeoning integration of artificial intelligence (AI) into various sectors of the economy is a double-edged sword. On one hand, it heralds unparalleled efficiency and innovation; on the other, it poses a significant threat to employment, particularly in urban impoverished communities. These communities, already grappling with systemic socio-economic challenges, face an exacerbated risk of unemployment due to AI's potential to automate jobs traditionally filled by lower-skilled workers.

Urban impoverished communities are characterized by high rates of unemployment, underemployment, and low-income levels. The residents often have limited access to education and vocational training, which confines them to entry-level or low-skill positions. As AI technologies become more sophisticated, the automation of these roles is increasingly feasible, threatening the livelihoods of countless individuals within these communities. The impact is not just economic; it extends to social and psychological ramifications, including increased rates of poverty, crime, and mental health issues, further entrenching the cycle of disadvantage.

To address this looming crisis, the proposed AI-guided career transition and skills enhancement platform offers a beacon of hope. By leveraging AI's analytical prowess to forecast job market trends and future skill requirements, the platform can provide personalized career transition pathways and skill development programs. This proactive approach not only mitigates the risk of unemployment but also empowers individuals with the tools and knowledge necessary for meaningful employment in a rapidly evolving job market.

The implementation of such a platform is a complex but critical endeavor. It requires a deep understanding of the nuanced needs of the target population, as well as the specific skills that will be in demand in the future economy. Furthermore, it necessitates a collaborative effort among tech developers, educators, policymakers, and community organizations to ensure accessibility and effectiveness.

The potential benefits of this initiative are manifold. For individuals, it offers a lifeline to secure sustainable employment and break free from the cycle of poverty. For communities, it promises a reduction in unemployment rates, fostering social cohesion and economic stability. And for

society at large, it contributes to a more inclusive and resilient economy, where technological advancement benefits all, not just a privileged few.

In conclusion, the intersection of AI and unemployment in urban impoverished communities presents a critical civic issue that demands immediate and innovative solutions. The proposed AI-guided career transition and skills enhancement platform represents a promising step forward, embodying the potential to transform the threat of AI-induced unemployment into an opportunity for empowerment and growth. Through strategic planning, collaboration, and the harnessing of AI's capabilities for good, we can pave the way for a future where technology uplifts rather than undermines the most vulnerable segments of our society.

1.b.i

The AI-guided career transition and skills enhancement platform is envisioned as a comprehensive digital solution designed to mitigate the unemployment risks posed by artificial intelligence in urban impoverished communities. At its core, the platform operates by connecting individuals with personalized career development opportunities, leveraging AI to analyze and predict market trends, and identifying future skill requirements. Here's a general idea of how it will function:

1. User Registration: Individuals from the targeted communities will register on the platform, providing basic information such as their current skill set, educational background, and employment history.
2. Market Analysis and Skill Matching: Using advanced AI algorithms, the platform will continuously analyze job market trends and predict future demands for specific skills. It will then match these insights with the profiles of registered users, identifying those who are most at risk of unemployment due to technological advancements and those who have the potential for a successful career transition.
3. Personalized Career Pathways: For users identified as needing a transition, the platform will generate personalized career pathways. These pathways will include recommendations for upskilling or reskilling, aligned with the user's existing skills and the predicted demand in the job market. This ensures a smoother transition by focusing on enhancing skills that are complementary to what the users already possess.
4. Training Programs: Once a career pathway is identified, the platform will offer access to tailored training programs. These could range from online courses and workshops to virtual reality simulations, all designed to equip users with the necessary skills for their new career paths. The training content will be sourced from educational partners and continuously updated to reflect the latest industry standards.
5. Job Placement Support: After completing the training, the platform will assist users in finding employment opportunities that match their new skill sets. This could involve

direct connections with employers, recommendations for open positions, and even assistance with the application and interview process.

6. Continuous Learning and Adaptation: Recognizing that the job market is constantly evolving, the platform will offer ongoing support and learning opportunities. This ensures that users can continue to adapt and grow in their new careers, safeguarding against future disruptions.

The AI-guided career transition and skills enhancement platform is not just a tool for finding jobs; it's a comprehensive ecosystem designed to foster sustainable employment and career growth in the face of technological change. By providing personalized guidance, training, and support, it empowers individuals from urban impoverished communities to navigate the challenges of the AI era and secure their place in the future workforce.

1.b.ii

The proposed AI-guided career transition and skills enhancement platform directly addresses the pressing issue of potential unemployment in urban impoverished communities due to the advancement of artificial intelligence. By harnessing the power of AI to analyze job market trends and future skill requirements, this platform will offer a solution that is both proactive and tailored to the needs of these communities.

The platform operates on a simple yet effective principle: using AI to map out career pathways that are in demand and align with the future job market. For individuals at risk of unemployment due to AI automation, the platform will serve as a bridge to new opportunities, guiding them towards sectors where their skills can be repurposed or enhanced for roles less susceptible to automation.

Upon identifying the most viable career transitions, the platform will provide personalized training programs. These programs will be designed to fast-track the acquisition of new skills or the enhancement of existing ones, ensuring that users can meet the qualifications required by their new career paths. This targeted approach minimizes the time and effort required for transition, making it feasible for individuals from impoverished communities to adapt to the changing job landscape.

Moreover, the platform will offer continuous support throughout the transition process. This includes career advice, mentorship, and access to a network of potential employers, significantly increasing the chances of successful employment in new fields. By doing so, it not only mitigates the immediate threat of unemployment but also contributes to the long-term economic stability and growth of urban impoverished communities.

In essence, the AI-guided career transition and skills enhancement platform provides a comprehensive solution to a complex problem. It empowers individuals facing the challenges of AI-induced unemployment with the tools and support necessary to navigate their career transitions successfully. Through personalized guidance and training, it facilitates a smoother, more

accessible path to employment in the evolving job market, ultimately helping to secure the future of those most at risk in urban impoverished communities.

2.a

```
# Load necessary libraries
library(dplyr)
```

```
Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union
```

```
library(ggplot2)

# Load the data
cell_data <- read.csv('cell.csv')

# Find the state with a texting ban and the highest number of traffic deaths
highest_deaths_with_text_ban <- cell_data %>%
  filter(text_ban == 1) %>%
  arrange(desc(numberofdeaths)) %>%
  head(1)

# Print the state with the highest number of traffic deaths among those with a texting ban
print(highest_deaths_with_text_ban)
```

```
  year      state state_numeric population numberofdeaths urban_percent
1 2012 California             5   38041430           2857            48
  cell_subscription cell_ban text_ban total_miles_driven
1             35616        1        1           326271.7
```

California has the highest number of traffic fatalities.

2.b

```
# Count states with a cell ban, texting ban, and both
counts_bans <- cell_data %>%
  summarize(
    cell_ban_count = sum(cell_ban == 1),
    text_ban_count = sum(text_ban == 1),
    both_bans_count = sum(cell_ban == 1 & text_ban == 1)
  )

# Print the counts
print(counts_bans)
```

```
  cell_ban_count text_ban_count both_bans_count
1             10             34              10
```

2.c

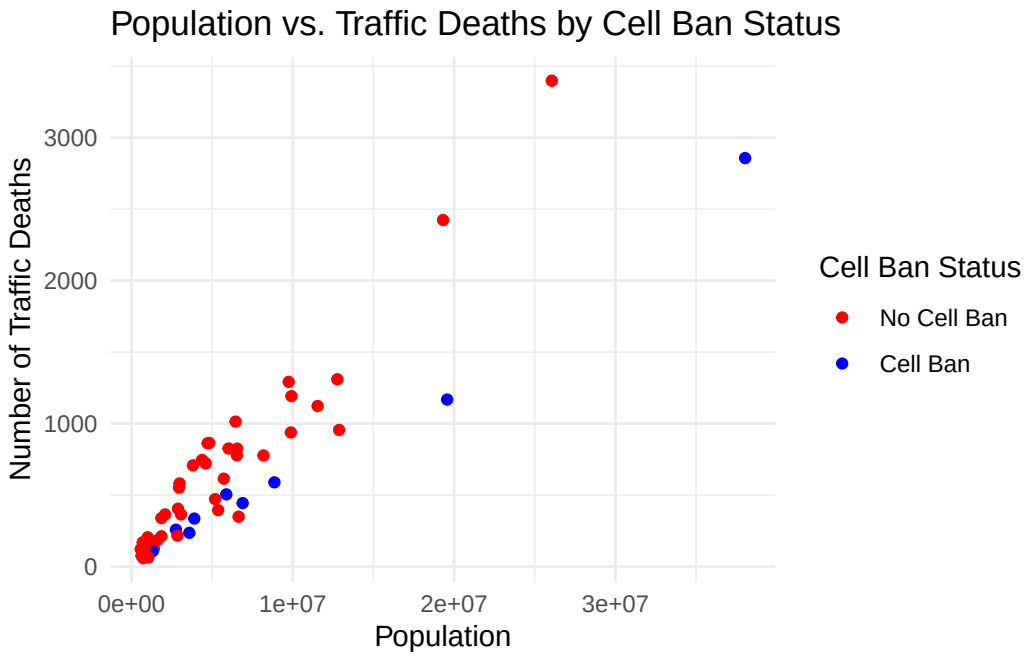
```
# Calculate average deaths for states with and without a texting ban
average_deaths_by_text_ban_status <- cell_data %>%
  group_by(text_ban) %>%
  summarize(average_deaths = mean(numberofdeaths))

# Print the averages
print(average_deaths_by_text_ban_status)
```

```
# A tibble: 2 x 2
  text_ban average_deaths
     <int>          <dbl>
1        0           892.
2        1           567.
```

2.d

```
# Plotting
ggplot(cell_data, aes(x = population, y = numberofdeaths, color = as.factor(cell_ban))) +
  geom_point() +
```

```
  scale_color_manual(values = c('0' = 'red', '1' = 'blue'),
                     labels = c('0' = 'No Cell Ban', '1' = 'Cell Ban'),
                     name = "Cell Ban Status") +
  labs(title = "Population vs. Traffic Deaths by Cell Ban Status",
       x = "Population",
       y = "Number of Traffic Deaths") +
  theme_minimal()
```



3

```
library(tidyverse)
```

```
-- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
v forcats   1.0.0     v stringr   1.5.1
v lubridate 1.9.3     v tibble    3.2.1
v purrr     1.0.2     v tidyr     1.3.0
v readr     2.1.4
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to beco
```

```
library(rvest)
```

```
Attaching package: 'rvest'

The following object is masked from 'package:readr':

    guess_encoding
```

```
html <- read_html("https://www.cnn.com/markets")
html
```

```
{html_document}
<html lang="en" data-uri="cms.cnn.com/_pages/markets-homepage@published" data-layout-uri="cms
[1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8 ...
[2] <body class="layout layout-markets-homepage markets" data-page-type="sect ...
```

```
a <- html |>
  html_elements(".header-18qFD2") |>
  html_text2()
a
```

```
 [1] "Price Change"
 [2] ""
 [3] ""
 [4] "Price"
 [5] "Price"
 [6] "Change"
 [7] "Change"
 [8] "Price Change % Change Volume 52-week range"
 [9] ""
[10] ""
[11] ""
[12] ""
[13] "Price"
[14] "Price"
[15] "Change"
[16] "Change"
[17] "% Change"
[18] "% Change"
```

```
[19] "Volume"
[20] "Volume"
[21] "52-week range"
[22] "52-week range"
[23] "Price Change % Change"
[24] ""
[25] ""
[26] ""
[27] ""
[28] "Price"
[29] "Price"
[30] "Change"
[31] "Change"
[32] "% Change"
[33] "% Change"
[34] "Time Event Impact Previous Forecast Actual"
[35] "Time"
[36] "Time"
[37] "Event"
[38] "Event"
[39] "Impact"
[40] "Impact"
[41] "Previous"
[42] "Previous"
[43] "Forecast"
[44] "Forecast"
[45] "Actual"
[46] "Actual"
[47] "Price Change % Change Volume 52-week range"
[48] ""
[49] ""
[50] ""
[51] ""
[52] "Price"
[53] "Price"
[54] "Change"
[55] "Change"
[56] "% Change"
[57] "% Change"
[58] "Volume"
[59] "Volume"
[60] "52-week range"
[61] "52-week range"
```

```
 [62] "Price Change % Change Volume 52-week range"
 [63] ""
 [64] ""
 [65] ""
 [66] ""
 [67] "Price"
 [68] "Price"
 [69] "Change"
 [70] "Change"
 [71] "% Change"
 [72] "% Change"
 [73] "Volume"
 [74] "Volume"
 [75] "52-week range"
 [76] "52-week range"
 [77] "Price Change % Change"
 [78] ""
 [79] ""
 [80] "Price"
 [81] "Price"
 [82] "Change"
 [83] "Change"
 [84] "% Change"
 [85] "% Change"
 [86] "Rate Change % Change"
 [87] ""
 [88] ""
 [89] "Rate"
 [90] "Rate"
 [91] "Change"
 [92] "Change"
 [93] "% Change"
 [94] "% Change"
 [95] "Yield Yield change"
 [96] ""
 [97] ""
 [98] "Yield"
 [99] "Yield"
[100] "Yield change"
[101] "Yield change"
```

```
b<- html |>
  html_elements("#maincontent") |>
  html_text2()
b
```

```
[1] "Markets"
```

Github page link: https://rpubs.com/Xin123/1154541