hw2_ecs163 data process

2024-02-08

Prepare for graph 1

```
data <- read.csv("/Users/keyikang/Desktop/163hw2/smh.csv")
smh <- read.csv("/Users/keyikang/Desktop/163hw2/smh.csv")
illnessnum <- rep(0,4)

for (i in 1:nrow(smh)) {

num <- sum(smh[i, c("Do.you.have.Depression.", "Do.you.have.Anxiety.", "Do.you.have.Panic.attack.")] ==

illnessnum[num + 1] <- illnessnum[num + 1] + 1

}

print(illnessnum)
```

```
## [1] 37 36 18 10
```

Prepare for Graph 2

```
# create a matrix
#row 1 is major
#row 2 is cgpa
#row 3 is any mental illness or not (0 for none, 1 for 1 or more)

smh$What.is.your.course. <- tolower(smh$What.is.your.course.)

matrix1 <- matrix(nrow = nrow(smh), ncol = 3)

cgpa_values <- c("0 - 1.99" = 1, "2.00 - 2.49" = 2, "2.50 - 2.99" = 3, "3.00 - 3.49" = 4, "3.50 - 4.00"

for (i in 1:nrow(smh)) {
  matrix1[i, 1] <- smh[i, "What.is.your.course."]
  matrix1[i, 2] <- cgpa_values[smh[i, "What.is.your.CGPA."]]
  matrix1[i, 3] <- ifelse(smh[i, "Do.you.have.Depression."] == "Yes" |
                          smh[i, "Do.you.have.Anxiety."] == "Yes" |
                          smh[i, "Do.you.have.Panic.attack."] == "Yes", 1,0)
}
matrix1[7,2]<- 5

matrix1_df <- as.data.frame(matrix1)
print(matrix1_df)
```

```
##                          V1 V2 V3
## 1               engineering  4  1
## 2         islamic education  4  1
## 3                       bit  4  1
## 4                      laws  4  1
## 5              mathemathics  4  0
## 6               engineering  5  1
## 7          pendidikan islam  5  1
## 8                       bcs  5  1
## 9            human resources  3  0
## 10                    irkhs  5  1
## 11               psychology  5  0
## 12              engineering  5  1
## 13                      bcs  4  1
## 14              engineering  4  0
## 15                    kenms  5  1
## 16                      bcs  5  0
## 17              accounting   4  0
## 18                      enm  4  1
## 19                      bit  5  1
## 20           marine science  5  1
## 21              engineering  4  1
## 22                      koe  4  0
## 23                      bcs  5  0
## 24              engineering  4  0
## 25                      bcs  5  1
## 26          banking studies  5  0
## 27              engineering  5  0
## 28              engineering  4  1
## 29                      bit  5  1
## 30                      bcs  5  0
## 31  business administration  4  0
## 32                      bcs  4  0
## 33                      bcs  5  1
## 34                      bcs  5  1
## 35                      bit  4  1
## 36              engineering  2  0
## 37                      law  4  1
## 38                      bit  3  1
## 39                   kirkhs  5  0
## 40              engineering  3  1
## 41                      bit  4  1
## 42              engineering  5  0
## 43               usuluddin   4  1
## 44                      bit  1  0
## 45                    taasl  5  1
## 46                      bcs  5  1
## 47              engineering  5  1
## 48                   engine  5  0
## 49                      bcs  4  1
## 50                      bcs  5  1
## 51                      ala  3  1
## 52                      bcs  5  1
## 53       biomedical science  4  0
```

```
## 54                     koe  4  1
## 55                     bcs  5  1
## 56                     bcs  4  0
## 57                  kirkhs  5  0
## 58                    benl  4  1
## 59                     bcs  5  0
## 60                    benl  4  0
## 61                      it  4  1
## 62                     bcs  5  0
## 63                     cts  5  1
## 64                   engin  5  1
## 65                  engine  5  0
## 66                   econs  5  1
## 67                     koe  4  1
## 68                    mhsc  4  1
## 69                  malcom  5  1
## 70                     kop  4  1
## 71       biomedical science  4  0
## 72                    laws  5  1
## 73                     bit  4  1
## 74       biomedical science  1  0
## 75                     bit  5  1
## 76                     koe  5  1
## 77             engineering  4  1
## 78           human sciences  4  1
## 79             biotechnology  1  0
## 80             engineering  5  0
## 81           communication  5  1
## 82          diploma nursing  5  0
## 83             engineering  4  1
## 84        pendidikan islam  4  0
## 85              radiography  4  0
## 86               psychology  5  1
## 87              fiqh fatwa  4  0
## 88               psychology  5  1
## 89                     bit  4  1
## 90             engineering  2  1
## 91            diploma tesl  5  1
## 92                     koe  4  1
## 93                     koe  4  1
## 94                    benl  4  1
## 95                    fiqh  1  1
## 96        islamic education  5  0
## 97                     bcs  5  1
## 98             engineering  4  1
## 99                nursing  5  1
## 100        pendidikan islam  5  0
## 101      biomedical science  4  0
```

Prepare for graph 3

```
# Extracting relevant columns
gender <- smh$Choose.your.gender
age <- smh$Age
```

```r
marital_status <- smh$Marital.status
year_of_study <- smh$Your.current.year.of.Study

cgpa_values <- c("0 - 1.99" = 1, "2.00 - 2.49" = 2, "2.50 - 2.99" = 3, "3.00 - 3.49" = 4, "3.50 - 4.00"
cgpa <- smh$What.is.your.CGPA.
cgpa_numeric <- cgpa_values[as.character(cgpa)]

course <- smh$What.is.your.course.
depression <- smh$Do.you.have.Depression.
anxiety <- smh$Do.you.have.Anxiety.
panic_attack <- smh$Do.you.have.Panic.attack.
treatment <- smh$Did.you.seek.any.specialist.for.a.treatment.


illness_count <- rowSums(smh[,c("Do.you.have.Depression.","Do.you.have.Anxiety.", "Do.you.have.Panic.at

cgpa_numeric[7]=5



graph3_data <- data.frame(
  Gender = gender,
  Age = age,
  Marital_Status = marital_status,
  Year_of_Study = year_of_study,
  CGPA = cgpa_numeric,
  Course = course,
  Illness_Count = illness_count,
  Treatment = treatment
)


print(graph3_data)
```

```
##     Gender Age Marital_Status Year_of_Study CGPA                Course
## 1   Female  18             No        year 1    4           engineering
## 2     Male  21             No        year 2    4     islamic education
## 3     Male  19             No        Year 1    4                   bit
## 4   Female  22            Yes        year 3    4                 laws
## 5     Male  23             No        year 4    4          mathemathics
## 6     Male  19             No        Year 2    5           engineering
## 7   Female  23            Yes        year 2    5      pendidikan islam
## 8   Female  18             No        year 1    5                   bcs
## 9   Female  19             No        Year 2    3       human resources
## 10    Male  18             No        year 1    5                 irkhs
## 11  Female  20             No        year 1    5           psychology
## 12  Female  24            Yes        Year 3    5           engineering
## 13  Female  18             No        year 1    4                   bcs
## 14    Male  19             No        year 1    4           engineering
## 15  Female  18             No        Year 2    5                 kenms
## 16    Male  24             No        Year 3    5                   bcs
## 17  Female  24             No        year 3    4           accounting
## 18  Female  24            Yes        year 4    4                   enm
```

```
## 19  Female  20            No       Year 2    5                    bit
## 20  Female  18           Yes       year 2    5          marine science
## 21  Female  19            No       year 1    4             engineering
## 22  Female  18            No       Year 2    4                    koe
## 23  Female  24            No       year 1    5                    bcs
## 24  Female  24            No       year 1    4             engineering
## 25  Female  23            No       Year 3    5                    bcs
## 26  Female  18            No       year 1    5         banking studies
## 27  Female  19            No       year 1    5             engineering
## 28    Male  18           Yes       Year 2    4             engineering
## 29  Female  24           Yes       Year 3    5                    bit
## 30  Female  24            No       year 4    5                    bcs
## 31  Female  23            No       Year 2    4 business administration
## 32    Male  18            No       year 2    4                    bcs
## 33    Male  19            No       year 1    5                    bcs
## 34    Male  18           Yes       Year 2    5                    bcs
## 35  Female  19            No       year 1    4                    bit
## 36  Female  18            No       year 1    2             engineering
## 37  Female  18            No       Year 3    4                    law
## 38  Female  19            No       year 1    3                    bit
## 39  Female  18            No       year 1    5                 kirkhs
## 40  Female  24           Yes       Year 2    3             engineering
## 41  Female  24            No       Year 3    4                    bit
## 42  Female  22            No       year 4    5             engineering
## 43  Female  20            No       year 2    4              usuluddin
## 44    Male  NA            No       year 1    1                    bit
## 45    Male  23            No       year 2    5                  taasl
## 46    Male  18            No       year 1    5                    bcs
## 47  Female  19            No       year 1    5             engineering
## 48  Female  18            No       year 4    5                  engine
## 49    Male  24            No       year 2    4                    bcs
## 50  Female  24            No       year 3    5                    bcs
## 51  Female  23           Yes       year 1    3                    ala
## 52  Female  18            No       year 2    5                    bcs
## 53  Female  19            No       year 3    4      biomedical science
## 54  Female  20           Yes       year 3    4                    koe
## 55  Female  19            No       year 1    5                    bcs
## 56    Male  21            No       year 1    4                    bcs
## 57    Male  23            No       Year 3    5                 kirkhs
## 58  Female  20            No       Year 3    4                   benl
## 59  Female  18            No       year 1    5                    bcs
## 60  Female  23            No       year 1    4                   benl
## 61  Female  18            No       Year 3    4                     it
## 62  Female  19            No       year 1    5                    bcs
## 63  Female  18            No       Year 1    5                    cts
## 64  Female  24            No       year 1    5                  engin
## 65  Female  24            No       year 1    5                 engine
## 66  Female  23            No       year 1    5                  econs
## 67  Female  18            No       Year 3    4                    koe
## 68    Male  19           Yes       Year 3    4                   mhsc
## 69  Female  18            No       year 1    5                 malcom
## 70  Female  24            No       year 4    4                    kop
## 71  Female  24            No       year 1    4      biomedical science
## 72  Female  18            No       Year 3    5                   laws
```

```
## 73  Female  19            Yes        Year 3    4                    bit
## 74    Male  18             No        year 1    1      biomedical science
## 75    Male  24             No        Year 3    5                    bit
## 76  Female  24             No        year 1    5                    koe
## 77  Female  23             No        year 1    4            engineering
## 78  Female  18             No        Year 2    4          human sciences
## 79  Female  19             No        Year 3    1            biotechnology
## 80  Female  18             No        year 4    5            engineering
## 81  Female  24            Yes        Year 2    5          communication
## 82  Female  24             No        year 2    5          diploma nursing
## 83  Female  19             No        year 1    4            engineering
## 84  Female  19             No        Year 2    4        pendidikan islam
## 85    Male  23             No        year 1    4            radiography
## 86  Female  18             No        year 1    5             psychology
## 87  Female  19             No        Year 3    4            fiqh fatwa
## 88  Female  18             No        year 1    5             psychology
## 89    Male  24             No        year 1    4                    bit
## 90    Male  24             No        Year 2    2            engineering
## 91  Female  23             No        Year 3    5           diploma tesl
## 92    Male  18             No        Year 2    4                    koe
## 93  Female  19            Yes        year 2    4                    koe
## 94  Female  18             No        year 1    4                   benl
## 95  Female  24             No        Year 3    1                   fiqh
## 96  Female  18             No        year 1    5        islamic education
## 97  Female  21             No        year 1    5                    bcs
## 98    Male  18             No        Year 2    4            engineering
## 99  Female  19            Yes        Year 3    5               nursing
## 100 Female  23             No        year 4    5         pendidikan islam
## 101   Male  20             No        Year 2    4      biomedical science
##     Illness_Count Treatment
## 1               2        No
## 2               1        No
## 3               3        No
## 4               1        No
## 5               0        No
## 6               1        No
## 7               2        No
## 8               1        No
## 9               0        No
## 10              2        No
## 11              0        No
## 12              1        No
## 13              1        No
## 14              0        No
## 15              1        No
## 16              0        No
## 17              0        No
## 18              3        No
## 19              1        No
## 20              3        No
## 21              1        No
## 22              0        No
## 23              0        No
## 24              0        No
```

```
## 25              3        No
## 26              0        No
## 27              0        No
## 28              2        No
## 29              3       Yes
## 30              0        No
## 31              0        No
## 32              0        No
## 33              1        No
## 34              2       Yes
## 35              3        No
## 36              0        No
## 37              2        No
## 38              3        No
## 39              0        No
## 40              2       Yes
## 41              1        No
## 42              0        No
## 43              1        No
## 44              0        No
## 45              1        No
## 46              2        No
## 47              1        No
## 48              0        No
## 49              1        No
## 50              1        No
## 51              2       Yes
## 52              1        No
## 53              0        No
## 54              3        No
## 55              2       Yes
## 56              0        No
## 57              0        No
## 58              2        No
## 59              0        No
## 60              0        No
## 61              1        No
## 62              0        No
## 63              1        No
## 64              1        No
## 65              0        No
## 66              2        No
## 67              1        No
## 68              2        No
## 69              1        No
## 70              1        No
## 71              0        No
## 72              1        No
## 73              1        No
## 74              0        No
## 75              1        No
## 76              2        No
## 77              1        No
## 78              1        No
```

```
## 79              0        No
## 80              0        No
## 81              3        No
## 82              0        No
## 83              2        No
## 84              0        No
## 85              0        No
## 86              2       Yes
## 87              0        No
## 88              3        No
## 89              1        No
## 90              1        No
## 91              1        No
## 92              1        No
## 93              1        No
## 94              1        No
## 95              1        No
## 96              0        No
## 97              1        No
## 98              2        No
## 99              2        No
## 100             0        No
## 101             0        No
```