Problem set 1: Quadratic equation

Frances Aponte

Excersise 1

Defines variables $a = 1, b = -1, c = -2$ and print out the solutions to $f(x) = ax^2 + bx + c = 0$.Do not report complex solutions, only real numbers. Avoid using the variable name c as it is a reserved function in R. Show the code and the answer.

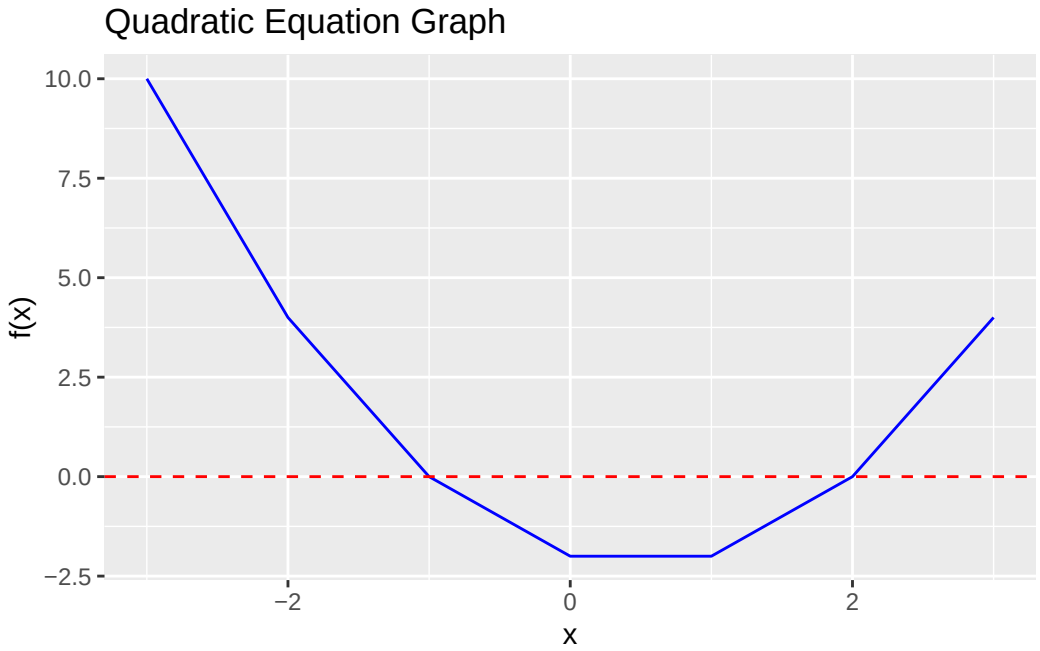
```
a=1
b=-1
# c will be called k
k=-2
```

```
#To determine if the quadratic equation have real solutions we use the discriminant.
real_soln<-b^2-4*a*k

if (real_soln>=0){
  soln_1<-(-b+sqrt(real_soln)/2*a)
  soln_2<-(-b-sqrt(real_soln)/2*a)

  cat("Real Solutions: \n")
  cat("x =", soln_1, "\n")
  cat("x =", soln_2, "\n")
} else {
  cat("No real solutions. \n")
}
```

```
Real Solutions:
x = 2.5
x = -0.5
```

Excercise 2

Show a graph of $f(x)$ versus x for $x \in (-3, 3)$. Do not show the code, only the graph.



Excercise 3

Generate a PDF report.