Group 06

Members:

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Status of development:

As requested, all the functionalities mentioned in the program specifications required were developed and are completely functional. Although the object-oriented version of the program was not done, as it was optional, we nevertheless created the player's Hand using a struct.

As for additional specifications, colours were designated to each type of domino, that is, dominoes facing down, dominoes facing up and dominoes that were already out of the board have different colour backgrounds. A menu was created in order to give the user the opportunity to read the instructions, to quit the game or simply to play the game. A combination of the user's number of turns and the time taken to complete the game was used to calculate the user's score. Fewer points indicate a better result. The program was also written in a way that all input errors were detected, and a warning was issued along with the possibility to repeat the input.

Menu:

Error choosing menu option:

```
PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
a

Please choose one of the options - 1, 2 or 3.

PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
asdfgf

Please choose one of the options - 1, 2 or 3.

PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
4

Please choose one of the options - 1, 2 or 3.

PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
```

Reading the instructions:

```
Please choose one of the options - 1, 2 or 3.

PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
2


All the tiles will be face-down. Write the coordinates and start turning them over to find matches. To choose a Tile, en
ter the first and second coordinates with the symbol '|' in between. A match, in this case, is a pair of tiles that tota
ls 12 points. A 6-6 plus a 0-0, for example, or a 1-3 plus a 3-5. If the two tiles you turn over add up to 12, they are
removed from the table, being presented with '-|-'. Keep going until you've found all the matches. A combination of the
number of attempts you required and the time taken is your score. The fewer points you have the better. Good Luck!


Ready to play? Press 'y'. If you want to quit, press 'n'.
```

Quitting the game (either through option 3, or choosing 'n' after reading the instructions):

```
Please choose one of the options - 1, 2 or 3.

PRESS:
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
2


All the tiles will be face-down. Write the coordinates and start turning them over to find matches. To choose a Tile, en
ter the first and second coordinates with the symbol '|' in between. A match, in this case, is a pair of tiles that tota
ls 12 points. A 6-6 plus a 0-0, for example, or a 1-3 plus a 3-5. If the two tiles you turn over add up to 12, they are
removed from the table, being presented with '-|-'. Keep going until you've found all the matches. A combination of the
number of attempts you required and the time taken is your score. The fewer points you have the better. Good Luck!


Ready to play? Press 'y'. If you want to quit, press 'n'.
n

Thank you.
C:\Users\Martim_Pc\source\repos\Projeto_EDA_jogo\Debug\Projeto_EDA_jogo.exe (process 13384) exited with code 0.
Press any key to close this window . . .
```

Controlling user input:

```
1 - PLAY
2 - INSTRUCTIONS
3 - QUIT
2


All the tiles will be face-down. Write the coordinates and start turning them over to find matches. To choose a Tile, en
ter the first and second coordinates with the symbol '|' in between. A match, in this case, is a pair of tiles that tota
ls 12 points. A 6-6 plus a 0-0, for example, or a 1-3 plus a 3-5. If the two tiles you turn over add up to 12, they are
removed from the table, being presented with '-|-'. Keep going until you've found all the matches. A combination of the
number of attempts you required and the time taken is your score. The fewer points you have the better. Good Luck!


Ready to play? Press 'y'. If you want to quit, press 'n'.
asdsdf
Please insert valid character (y or n).
Ready to play? Press 'y'. If you want to quit, press 'n'.
```

Demonstration of deck and hand struct (although not used in the program, they are functional):

Deck

Starting the game:

```
Ready to play? Press 'y'. If you want to quit, press 'n'.
y

What is your user name?
GONÇALVES

Time is now ticking, GONÇALVES!

Board:
     a     b     c     d     e     f     g
A  X|X   X|X   X|X   X|X   X|X   X|X   X|X

B  X|X   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X
```

One loop of the game:

```
Choose tile 1 (line|column):
A|a
     a     b     c     d     e     f     g
A  2|1   X|X   X|X   X|X   X|X   X|X   X|X

B  X|X   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X


Choose tile 2 (line|column):
A|d
     a     b     c     d     e     f     g
A  2|1   X|X   X|X   5|0   X|X   X|X   X|X

B  X|X   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X

Sum is not 12.
Number of turns: 1

     a     b     c     d     e     f     g
A  X|X   X|X   X|X   X|X   X|X   X|X   X|X

B  X|X   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X


Choose tile 1 (line|column):
```

Controlling user input:

```
Choose tile 1 (line|column):
Z|a

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
A|s

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
A|da

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
12

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
assfrdt34234

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
A\a

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):


Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
```

(Coordinates that are out of bonds, random inputs, invalid separator, and no input at all)

When the Tiles match:

```
Choose tile 2 (line|column):
A|c
      a     b     c     d     e     f     g
A   X|X   X|X   5|1   X|X   X|X   X|X   X|X

B   3|3   X|X   X|X   X|X   X|X   X|X   X|X

C   X|X   X|X   X|X   X|X   X|X   X|X   X|X

D   X|X   X|X   X|X   X|X   X|X   X|X   X|X

Sum is 12!
Number of turns: 4

      a     b     c     d     e     f     g
A   X|X   X|X   -|-   X|X   X|X   X|X   X|X

B   -|-   X|X   X|X   X|X   X|X   X|X   X|X

C   X|X   X|X   X|X   X|X   X|X   X|X   X|X

D   X|X   X|X   X|X   X|X   X|X   X|X   X|X
```

Controlling user input:

```
     a     b     c     d     e     f     g
A  X|X   X|X    -|-   X|X   X|X   X|X   X|X

B   -|-   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X



Choose tile 1 (line|column):
B|a

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 1 (line|column):
A|b
     a     b     c     d     e     f     g
A  X|X   2|0    -|-   X|X   X|X   X|X   X|X

B   -|-   X|X   X|X   X|X   X|X   X|X   X|X

C  X|X   X|X   X|X   X|X   X|X   X|X   X|X

D  X|X   X|X   X|X   X|X   X|X   X|X   X|X


Choose tile 2 (line|column):
A|b

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 2 (line|column):
A|b

Please enter a valid set of coordinates - example: 'A|b'.

Choose tile 2 (line|column):
```

(If Tile has been matched or it has already been chosen it cannot be chosen again)

Throughout the game:

```
Choose tile 1 (line|column):
C|b
     a     b     c     d     e     f     g
A   X|X   X|X   -|-   -|-   -|-   X|X   X|X

B   -|-   X|X   X|X   X|X   -|-   -|-   X|X

C   X|X   2|2   X|X   X|X   X|X   X|X   X|X

D   X|X   X|X   X|X   X|X   X|X   X|X   X|X


Choose tile 2 (line|column):
B|g
     a     b     c     d     e     f     g
A   X|X   X|X   -|-   -|-   -|-   X|X   X|X

B   -|-   X|X   X|X   X|X   -|-   -|-   6|2

C   X|X   2|2   X|X   X|X   X|X   X|X   X|X

D   X|X   X|X   X|X   X|X   X|X   X|X   X|X

Sum is 12!
Number of turns: 13

     a     b     c     d     e     f     g
A   X|X   X|X   -|-   -|-   -|-   X|X   X|X

B   -|-   X|X   X|X   X|X   -|-   -|-   -|-

C   X|X   -|-   X|X   X|X   X|X   X|X   X|X

D   X|X   X|X   X|X   X|X   X|X   X|X   X|X
```

Ending the game:

```
Choose tile 2 (line|column):
C|e
     a     b     c     d     e     f     g
A  -|-   -|-   -|-   -|-   -|-   -|-   -|-

B  -|-   -|-   -|-   -|-   -|-   -|-   -|-

C  1|0   -|-   -|-   -|-   6|5   -|-   -|-

D  -|-   -|-   -|-   -|-   -|-   -|-   -|-

Sum is 12!
Number of turns: 25

     a     b     c     d     e     f     g
A  -|-   -|-   -|-   -|-   -|-   -|-   -|-

B  -|-   -|-   -|-   -|-   -|-   -|-   -|-

C  -|-   -|-   -|-   -|-   -|-   -|-   -|-

D  -|-   -|-   -|-   -|-   -|-   -|-   -|-


Time taken: 1048 seconds

Number of turns: 25.

Final score: 1298 points.

C:\Users\Martim_Pc\source\repos\Projeto_EDA_jogo\Debug\Projeto_EDA_jogo.exe (process 8300) exited with code 0.
Press any key to close this window . . .
```
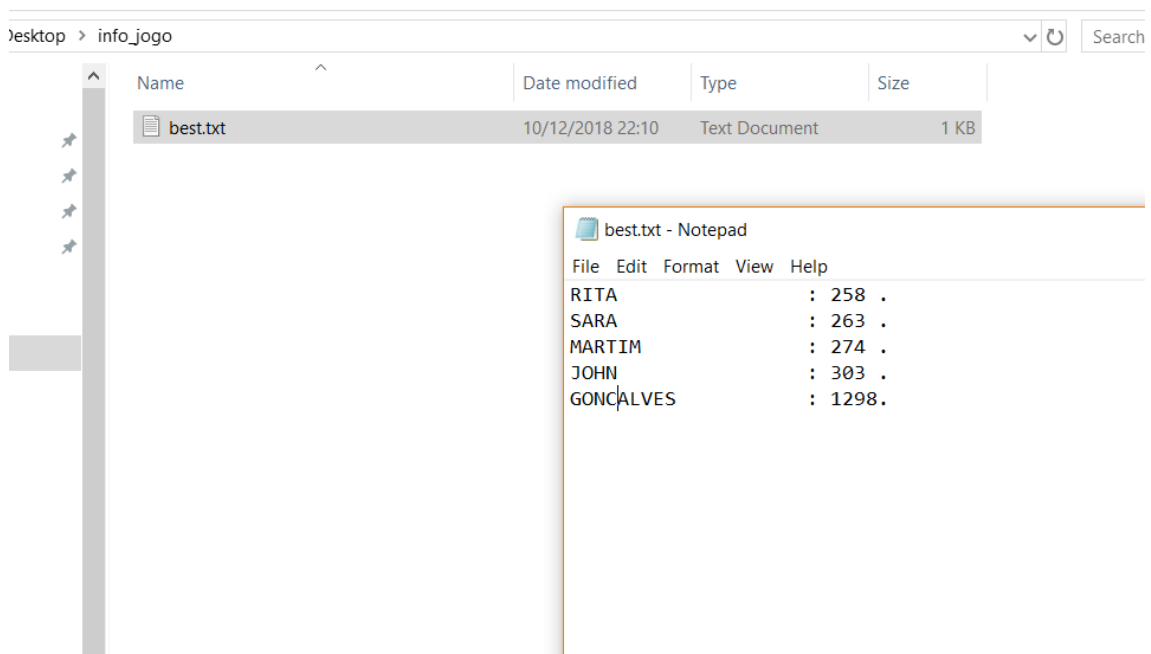
Saving the score:


```
best.txt - Notepad
File  Edit  Format  View  Help
RITA                   : 258 .
SARA                   : 263 .
MARTIM                 : 274 .
JOHN                   : 303 .
GONCALVES              : 1298.
```

(In the best.txt only the top ten players are saved)