PES UNIVERSITY

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Department of Computer Science and Engineering

Title: Hangman Game using GUI

Team Member Details:

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2) PES1UGCS160- Chittesh Kumar K.
3) PES1UGCS178- Dhruv Nilkund

Abstract

We all know that Hangman Game is very popular game. It is a game of guessing a word, phrase or sentence by trying to guess letters to fill it. This game will improve our general knowledge and keep our brains sharp by thinking given hint and link to the word.

This game also increases our problem-solving skills, keep away from loneliness. This will also bring people together, discussion, etc.

We have visualised this game to be user-friendly, simple and joyful.

It also gives us information and also relieves from stress. It is also important to know what is going on in our surroundings rather than being busy all the day with our works.

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Introduction

We have discussed and decided to work on Hangman Game.

We have designed Hangman game using Tkinter as Graphical User Interface (GUI). We have implemented many modules like import, messagebox, pack, etc.

We have created a simple game to make us understand the level of coding, thoughts, etc.

We have written the code into two parts. First part contains the beginning/introduction of Hangman game and the another part is main game.

First part of the code consists of option like play game, entering your name, greetings, quit the game, etc. We have added images from internet.

Second part of code consists of alphabetical keys, images, displaying hint and word to be guessed.

We have drawn the figures of Hangman Game using paint and being added in project.

Scope of this game are:

1) Not adding multiple words to guess in the game.
2) Not showing user to choose the difficulty level.
3) If we maximise the screen, the game's display doesn't spread to fill the window.

Design and Implementation

```
from tkinter import *
from tkinter import messagebox

window=Tk()
window.geometry('720x720')

window.title('Hangman Game')

window.config(bg='black')

icon_photo=PhotoImage(file='F:\\PES\\B_Tech (Sem_1)\\Python Language\\hangman_iconphoto.png')
window.iconphoto(True,icon_photo)

w_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman_photo_window.png')

y_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\yes_icon (1) (1).png')

frame=Frame(window,width=700,bg='black')
frame.grid(row=0,column=0,padx=110,pady=10)

lb1=Label(frame,text='Hangman Game',fg='Yellow',bg='black',font=('Lucida Calligraphy',35),bd=10,padx=15,pady=50,image=w_image,compound='bottom')
lb1.grid(row=0,column=5,columnspan=2)

list1=Listbox(frame,bg='#fcd703',fg='black',font=('Times of Roman',20),width=15,selectbackground='green',relief=SUNKEN,bd=10,cursor='arrow')
list1.grid(row=1,column=5,columnspan=3)

list1.insert(1,'Play Game')
list1.insert(2,'Quit')

list1.config(height=list1.size())



def submit():
    if list1.get(list1.curselection())=='Quit':
        if messagebox.askyesnocancel(title='EXIT',message='Are you sure that you want to quit the game?'):
```

```
def submit():
    if list1.get(list1.curselection())=='Quit':
        if messagebox.askyesnocancel(title='EXIT',message='Are you sure that you want to quit the game?'):
            window.destroy()
        else:
            pass
    else:
        window_1=Toplevel()
        window_1.geometry('720x720')
        window_1.config(bg='Black')

        frame1=Frame(window_1,width=700,bg='black',highlightcolor='red',highlightthickness=5)
        frame1.grid(row=0,column=0,padx=10,pady=10)

        lb2=Label(frame1,text='Hi, Welcome to Hangman Game...',fg='Yellow',bg='Black',font=('Lucida Calligraphy',25),padx=50,pady=10)
        lb2.grid(row=0,column=0)

        lb3=Label(frame1,text='Enter your name:',fg='Yellow',bg='Black',font=('Times of Roman',20),width=20,pady=40)
        lb3.grid(row=1,column=0,sticky=W)

        entry1=Entry(frame1,fg='Blue',bg='light yellow',font=('Times of Roman',25))
        entry1.grid(row=1,column=0,sticky=W,padx=300)

        entry1.insert(0,'User')

        def submit1():
            if len(entry1.get())==0:
                messagebox.showerror(title='ERROR!',message='You haven\'t entered your name... Enter your name to proceed.')

            else:
                if messagebox.askyesno(title='Hangman Game',message=entry1.get()+', Are you ready ready to play the game?'):
                        messagebox.showinfo(title='Wishes',message='All the best!!!')
                        import Hangman_Project_CSE_1st_Year_Part_2


                else:
```

```
        else:
            if messagebox.askyesno(title='Hangman Game',message=entry1.get()+', Are you ready ready to play the game?'):
                        messagebox.showinfo(title='Wishes',message='All the best!!!')
                        import Hangman_Project_CSE_1st_Year_Part_2


            else:
                pass

    def backspace():
        entry1.delete(len(entry1.get())-1,END)

    def delete():
        entry1.delete(0,END)

    def quit1():
        if messagebox.askyesnocancel(title='EXIT',message='Are you sure that you want to quit the game?'):
            window.destroy()
        else:
            pass

    frame2=Frame(frame1,width=500,bg='black')
    frame2.grid(row=3,column=0,padx=10,pady=10)


    button1 = Button(frame2,text='Clear',command=delete,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
    button1.grid(row=0,column=0,padx=10)

    button2 = Button(frame2,text='Submit ',command=submit1,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
    button2.grid(row=0,column=1,padx=10)

    button3= Button(frame2,text='Quit',command=quit1,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
    button3.grid(row=0,column=2,padx=10)
```

```
    button1 = Button(frame2,text='Clear',command=delete,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
    button1.grid(row=0,column=0,padx=10)

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    button2.grid(row=0,column=1,padx=10)

    button3= Button(frame2,text='Quit',command=quit1,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
    button3.grid(row=0,column=2,padx=10)


button = Button(frame,text='Submit ',command=submit,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5,image=y_in
button.grid(row=3,column=5,columnspan=3,rowspan=10,pady=30)


window.mainloop()
```

```
ı(frame2,text='Clear',command=delete,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
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(frame2,text='Quit',command=quit1,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5)
=0,column=2,padx=10)


ɜ,text='Submit ',command=submit,padx=3,pady=3,font=('Times of Roman',18),bg='#03b6fc',activebackground='#03b6fc',relief=RAISED,bd=5,image=y_image,compound='right')
umn=5,columnspan=3,rowspan=10,pady=30)
```

```
if __name__=='__main__':
    pass
else:
    from tkinter import *
    from tkinter import messagebox


    window_2=Toplevel()
    window_2.config(bg='#03b1fc')
    window_2.geometry('730x720')

    frame2=Frame(window_2,width=680,highlightcolor='red',highlightthickness=5)
    frame2.pack(padx=20,pady=20)

    frame3=Frame(window_2,width=680,highlightcolor='red',highlightthickness=5)
    frame3.pack(padx=20,pady=20)

    h1_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures.png')
    h2_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (1).png')
    h3_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (2).png')
    h4_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (3).png')
    h5_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (4).png')
    h6_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (5).png')
    h7_image=PhotoImage(file='C:\\Users\\chitt\\Downloads\\Hangman Figures (6).png')

    figures=[h1_image,h2_image,h3_image,h4_image,h5_image,h6_image,h7_image]

    lb6=Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,bg='light yellow',image=figures[0],compound='bottom')
    lb6.image=figures[0]
    lb6.place(x=10,y=100)


    for i in range(65,91):
        if i<78:
            x=chr(i)
            Button(frame2,text=x,padx=14,pady=10,bg='#03e3fc',activebackground='#03e3fc',font=('Times of Roman',15),relief=RAISED,command=lambda x=x: guess_letter(x)).pa
```

```
    for i in range(65,91):
        if i<78:
            x=chr(i)
            Button(frame2,text=x,padx=14,pady=10,bg='#03e3fc',activebackground='#03e3fc',font=('Times of Roman',15),relief=RAISED,command=lambda x=x: guess_letter(x)).pa
            frame2.place(x=0,y=580)
        else:
            y=chr(i)
            Button(frame3,text=y,padx=13.45,pady=10,bg='#03e3fc',activebackground='#03e3fc',font=('Times of Roman',15),relief=RAISED,command=lambda y=y: guess_letter(y))
            frame3.place(x=0,y=650)


    def guessed_word():
        messagebox.showinfo(title='Hangman Game',message='Let\'s start the game!!')

        global chances
        chances=0
        import random
        Word_to_be_guessed=["PORBANDAR","HIRAKUD","DECIBEL","CRYOMETER","VOLTA","XYLEM","SONAR","CRYOMETER","PACIFIC","THAILAND","CRYOMETER","TOKYO","FEMUR",
        global a
        a=random.choice(Word_to_be_guessed)
        guessed_letter=''

        global lb
        if a=='DECIBEL':
            lb=Label(window_2,text='Hint: SI unit of sound',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
            lb.place(x=125,y=20)

        elif a=='XYLEM':
            lb=Label(window_2,text='Hint: Tissue of plant that transports water',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
            lb.place(x=125,y=20)

        elif a=='SONAR':
            lb=Label(window_2,text='Hint: Instrument to calculate distance of underwater objects',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
            lb.place(x=125,y=20)
```

```
padx=14,pady=10,bg='#03e3fc',activebackground='#03e3fc',font=('Times of Roman',15),relief=RAISED,command=lambda x=x: guess_letter(x)).pack(side=LEFT)
30)

padx=13.45,pady=10,bg='#03e3fc',activebackground='#03e3fc',font=('Times of Roman',15),relief=RAISED,command=lambda y=y: guess_letter(y)).pack(side=LEFT)
50)

e='Hangman Game',message='Let\'s start the game!!')

ORBANDAR","HIRAKUD","DECIBEL","CRYOMETER","VOLTA","XYLEM","SONAR","CRYOMETER","PACIFIC","THAILAND","CRYOMETER","TOKYO","FEMUR","NORWAY","ROE","CANBERRA"]

) be_guessed)

t='Hint: SI unit of sound',padx=10,pady=10,bg='orange',font=('Times of Roman',20))

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    global lb
    if a=='DECIBEL':
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        lb.place(x=125,y=20)

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        lb.place(x=125,y=20)

    elif a=='SONAR':
        lb=Label(window_2,text='Hint: Instrument to calculate distance of underwater objects',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='PACIFIC':
        lb=Label(window_2,text='Hint: Deepest ocean in the world',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='THAILAND':
        lb=Label(window_2,text='Hint: A place where we found white elephants',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='TOKYO':
        lb=Label(window_2,text='Hint: Largest population city in the world',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='FEMUR':
        lb=Label(window_2,text='Hint: Largest bone in human body',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='CANBERRA':
        lb=Label(window_2,text='Hint: Capital of Australia',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='PORBANDAR':
        lb=Label(window_2,text='Hint: Birth Place of Mahatma Gandhiji',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)
```
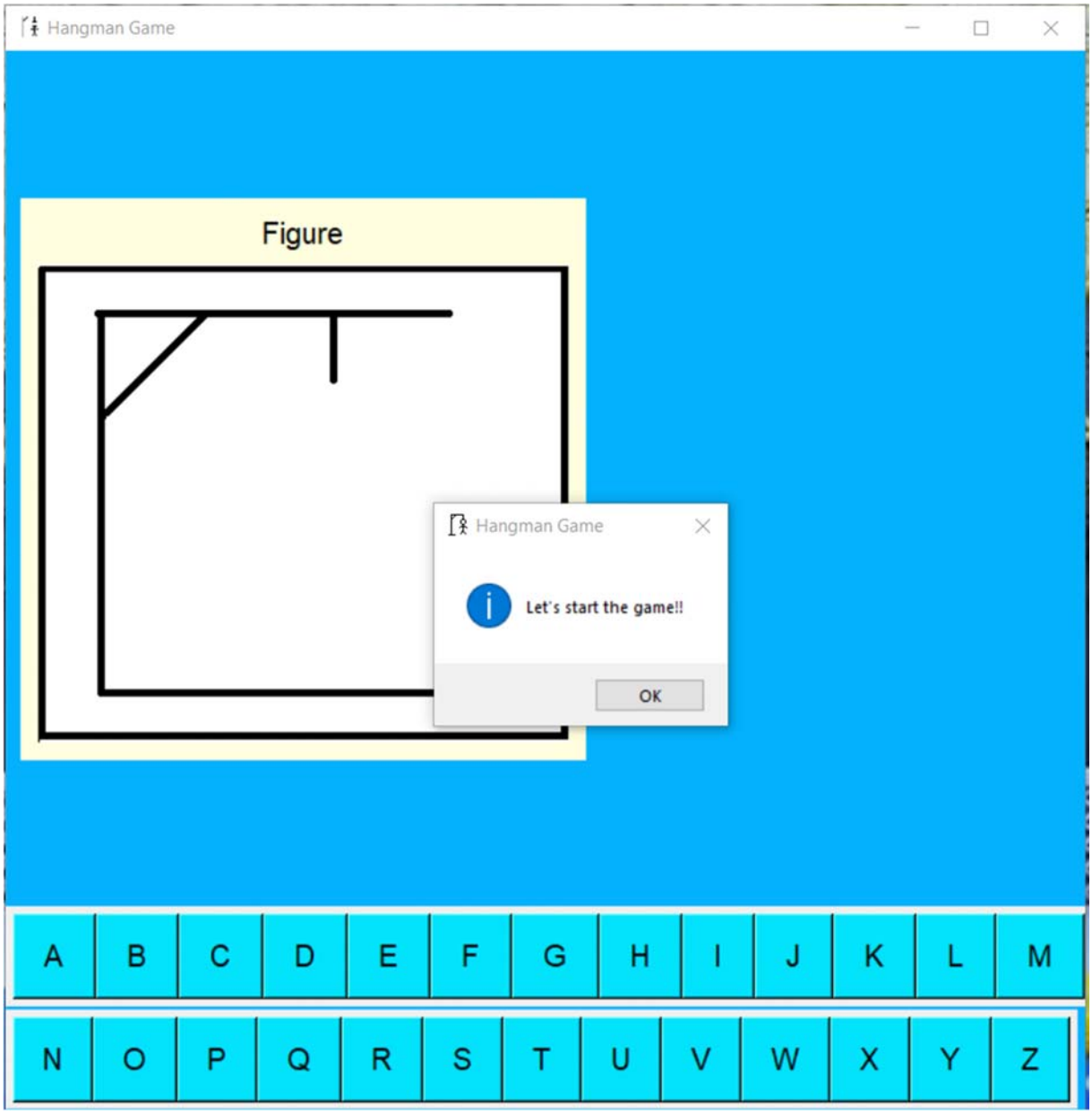

```
    elif a=='PORBANDAR':
        lb=Label(window_2,text='Hint: Birth Place of Mahatma Gandhiji',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='HIRAKUD':
        lb=Label(window_2,text='Hint: Longest Dam in the world',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='ROE':
        lb=Label(window_2,text='Hint: The narrowest river in the world',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='CRYOMETER':
        lb=Label(window_2,text='Hint: Device to measure very low temperature of objects',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='VOLTA':
        lb=Label(window_2,text='Hint: Who invented the battery?',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    elif a=='NORWAY':
        lb=Label(window_2,text='Hint: Which place is known as "Land of the Midnight Sun" in the world',padx=10,pady=10,bg='orange',font=('Times of Roman',20))
        lb.place(x=125,y=20)

    global word1
    word1=' '.join(a)

    global b
    b=StringVar()
    global lb1
    lb1=Label(window_2,textvariable=b,font=('Times of Roman',24))
    lb1.place(x=500,y=200)

    b.set(' '.join('_'*len(a)))
```

```
    lb1.place(x=500,y=200)

    b.set(' '.join('_'*len(a)))


guessed_word()


def guess_letter(letter):
    global chances
    if chances<6:
        text1=list(word1)
        guessed_word=list(b.get())

        if word1.count(letter)>0:
            for i in range(len(text1)):
                if text1[i]==letter:
                    guessed_word[i]=letter
                b.set(''.join(guessed_word))

                if b.get()==word1:
                    messagebox.showinfo(title='Hurrah! ,You won the game',message='Congratulations!, You have guessed the word')
                    continue_game()


        else:
            chances+=1
            if chances<5:
                Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,image=figures[chances],compound='bottom').place(x=10,y=100)

            elif chances==5:
                Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,image=figures[chances],compound='bottom').place(x=10,y=100)
                messagebox.showwarning(title='WARNING!',message='You have last chance to guess the word')

    elif chances==6:
```

```
            elif chances==5:
                Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,image=figures[chances],compound='bottom').place(x=10,y=100)
                messagebox.showwarning(title='WARNING!',message='You have last chance to guess the word')

        elif chances==6:
            Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,image=figures[chances],compound='bottom').place(x=10,y=100)
            messagebox.showerror(title='Hangman Game',message='GAME OVER! , Better luck next time...')
            Label(window_2,text='Hint: ',padx=10,pady=10,bg='orange',font=('Times of Roman',20)).place(x=125,y=20)
            continue_game()



def continue_game():
    if messagebox.askyesno(title='Hangman Game',message='Do you want to continue this game?'):
        lb.destroy()
        lb1.destroy()
        guessed_word()
        lb6=Label(window_2,text='Figure',font=('Times of Roman',15),padx=10,pady=10,bg='light yellow',image=figures[0],compound='bottom')
        lb6.place(x=10,y=100)

    else:
        window_2.destroy()


window_2.mainloop()
```

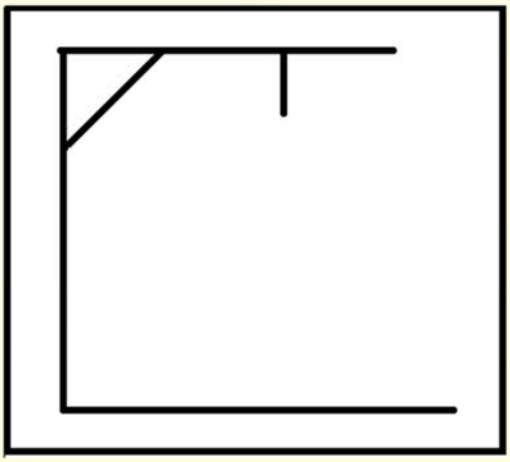
Testing


Hangman Game
Figure
Hangman Game
Let's start the game!!
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Hangman Game

Hint: Device to measure very low temperature of objects

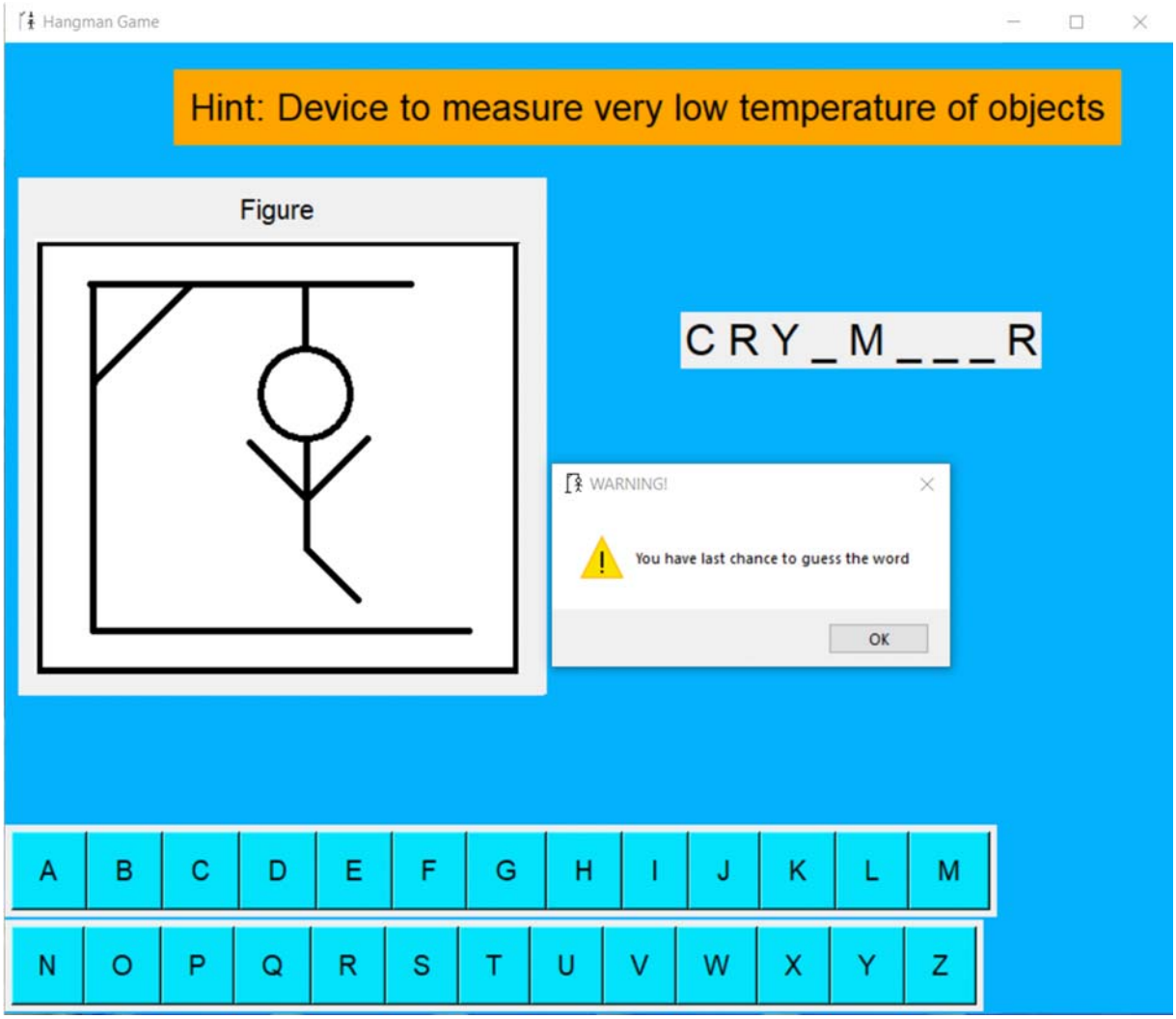
Figure

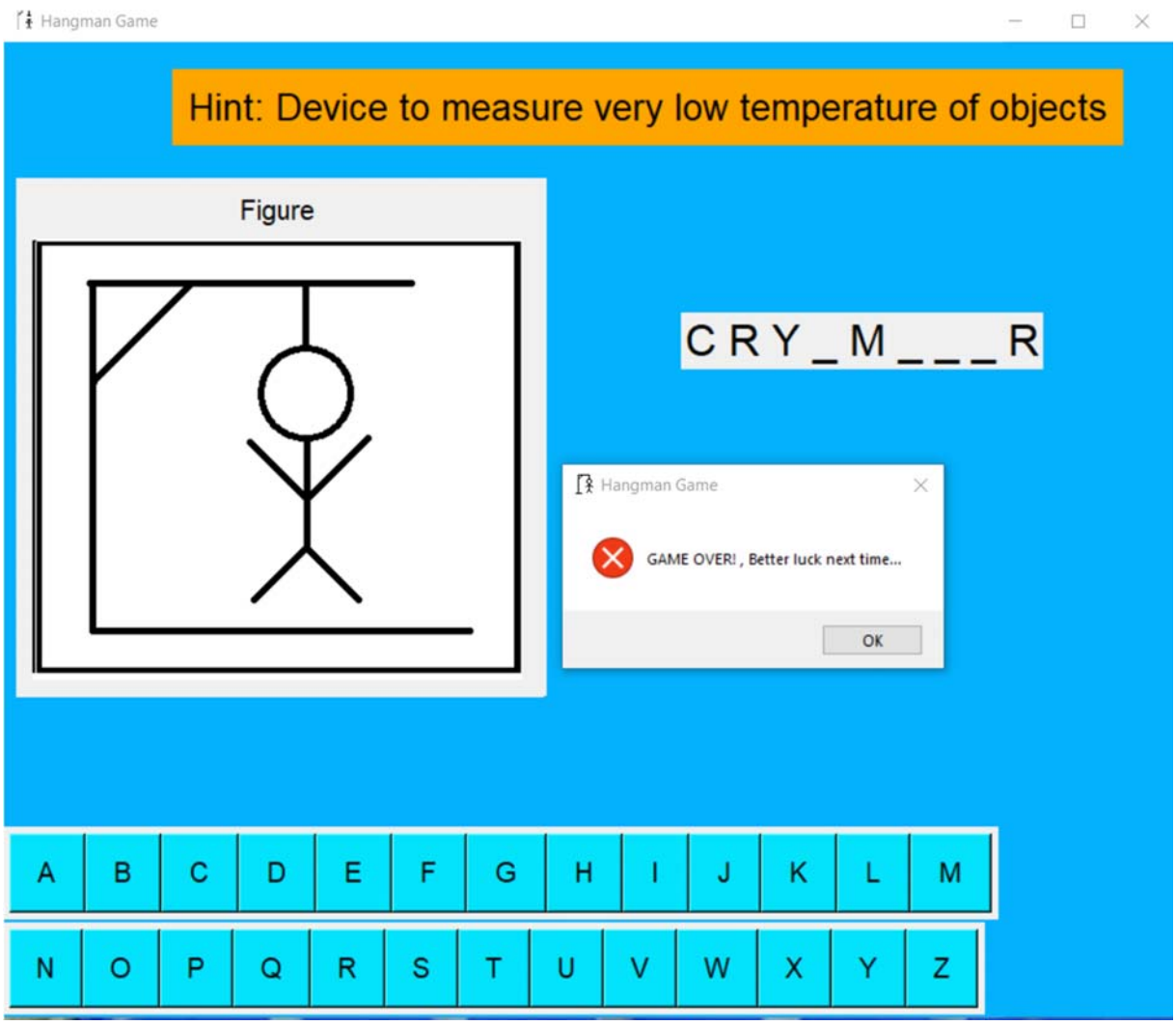


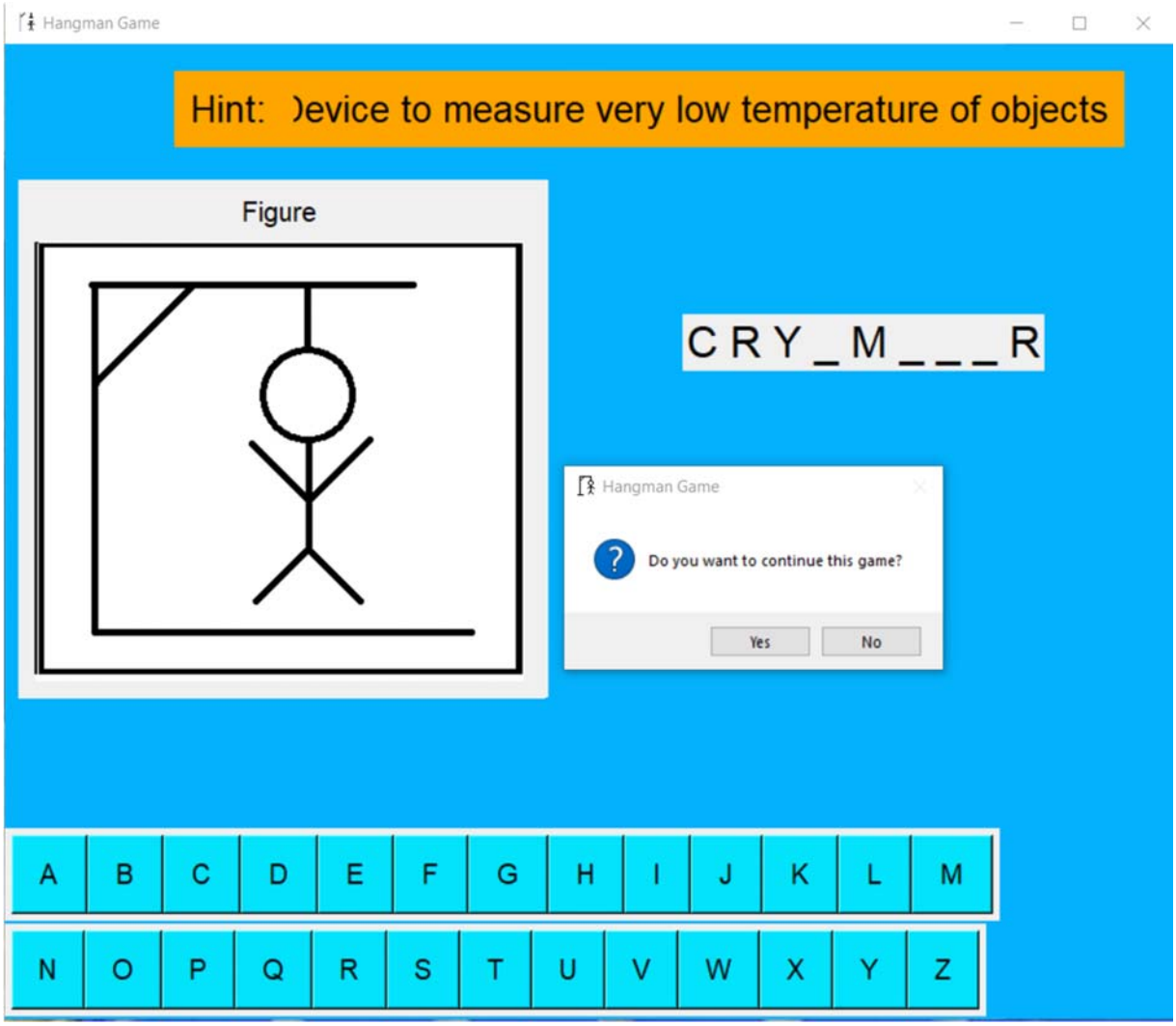
_ _ _ _ _ _ _ _ _

A B C D E F G H I J K L M

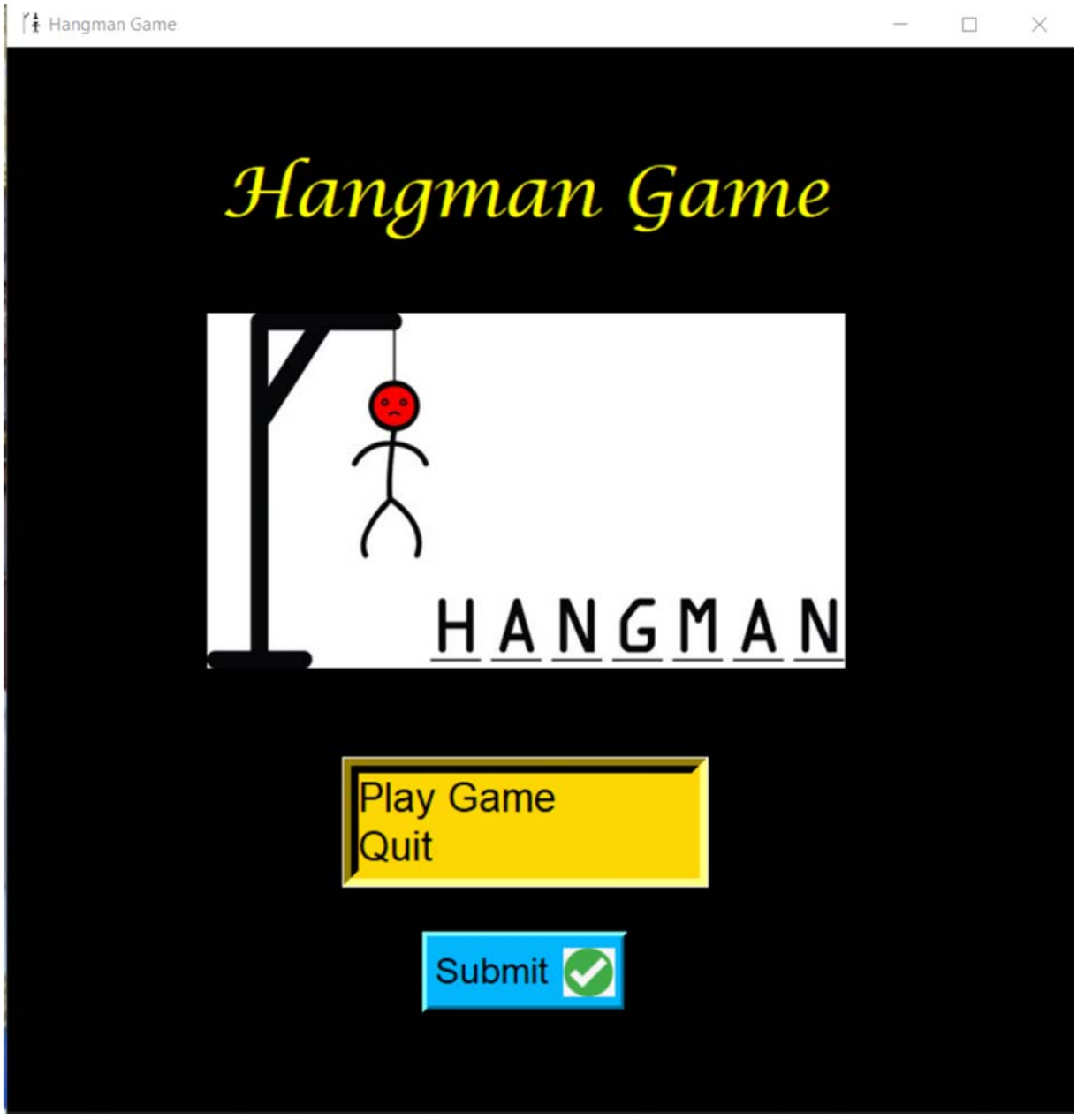
N O P Q R S T U V W X Y Z

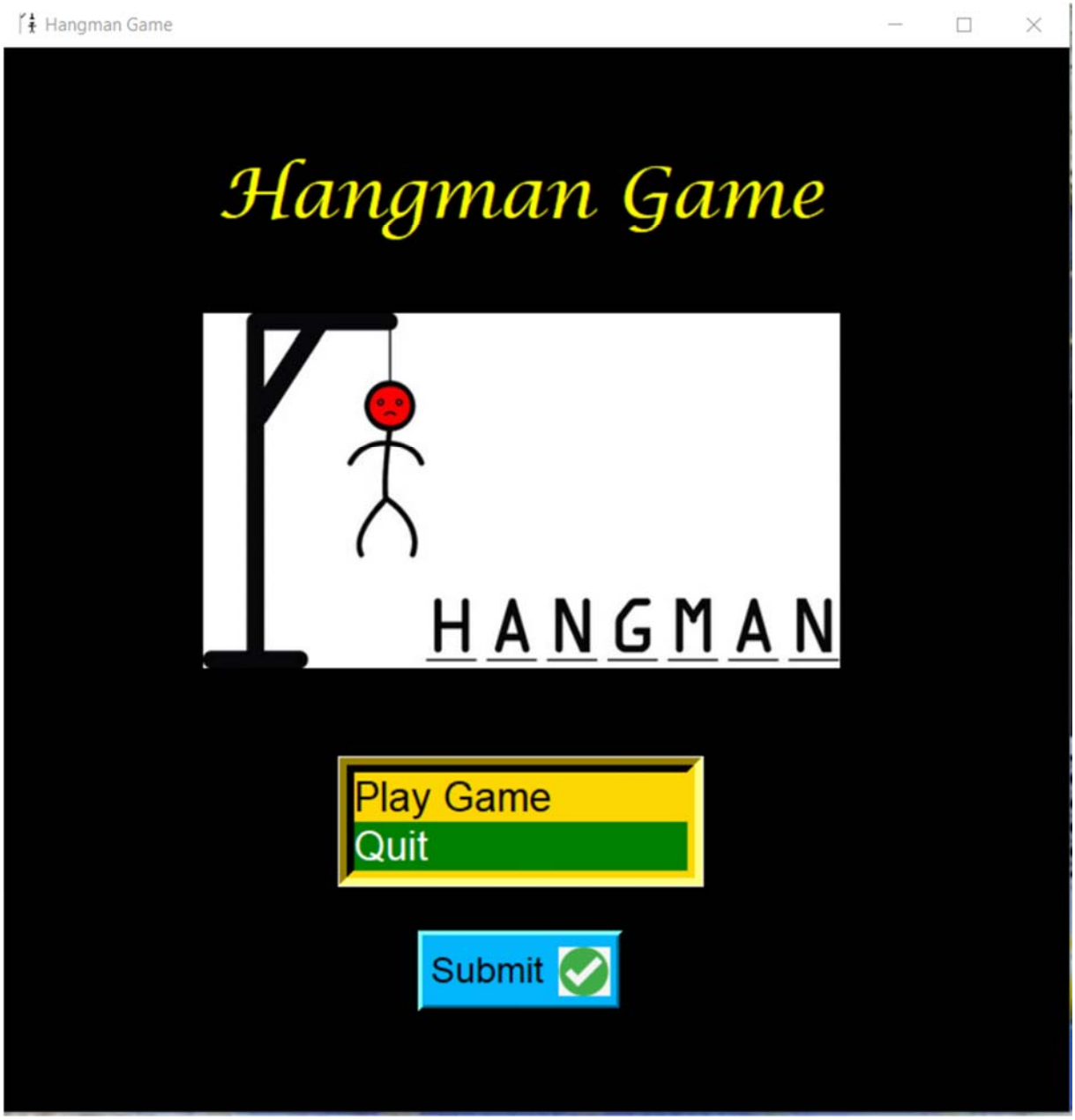

Hangman Game
Hint: Device to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
WARNING!
You have last chance to guess the word
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z


Hangman Game
Hint: Device to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
Hangman Game
GAME OVER! , Better luck next time...
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

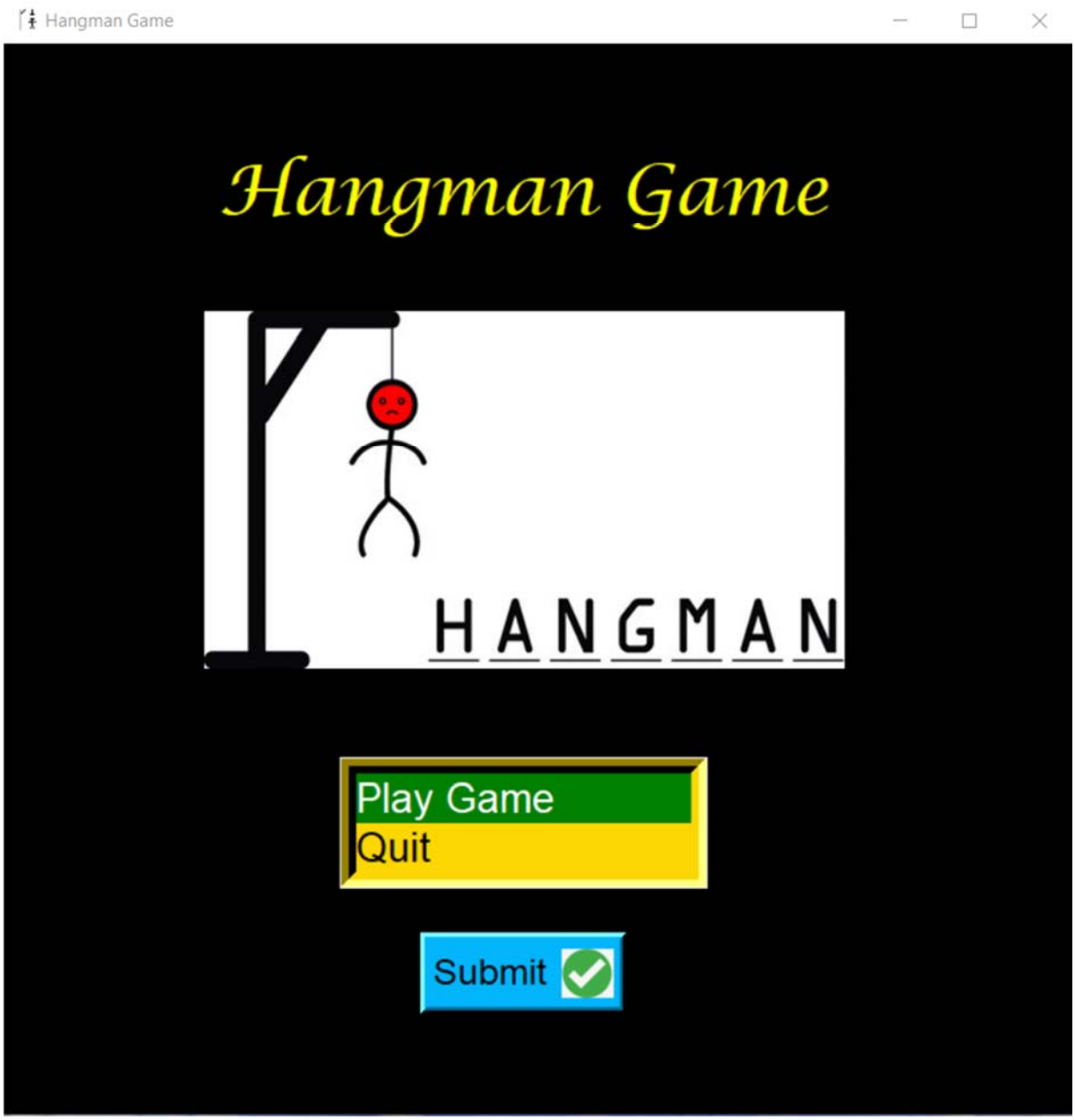

Hangman Game
Hint:)evice to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
Hangman Game
Do you want to continue this game?
Yes
No
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Result and Analysis



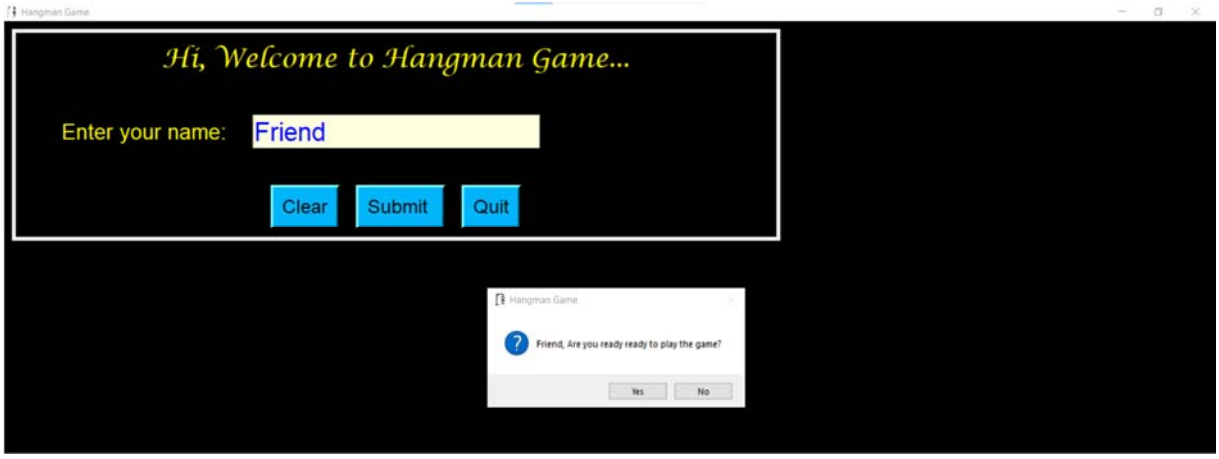

Hangman Game
Hangman Game
HANGMAN
Play Game
Quit
Submit


Hangman Game
Hangman Game
EXIT
Are you sure that you want to quit the game?
Yes
No
Cancel
Play Game
Quit
Submit

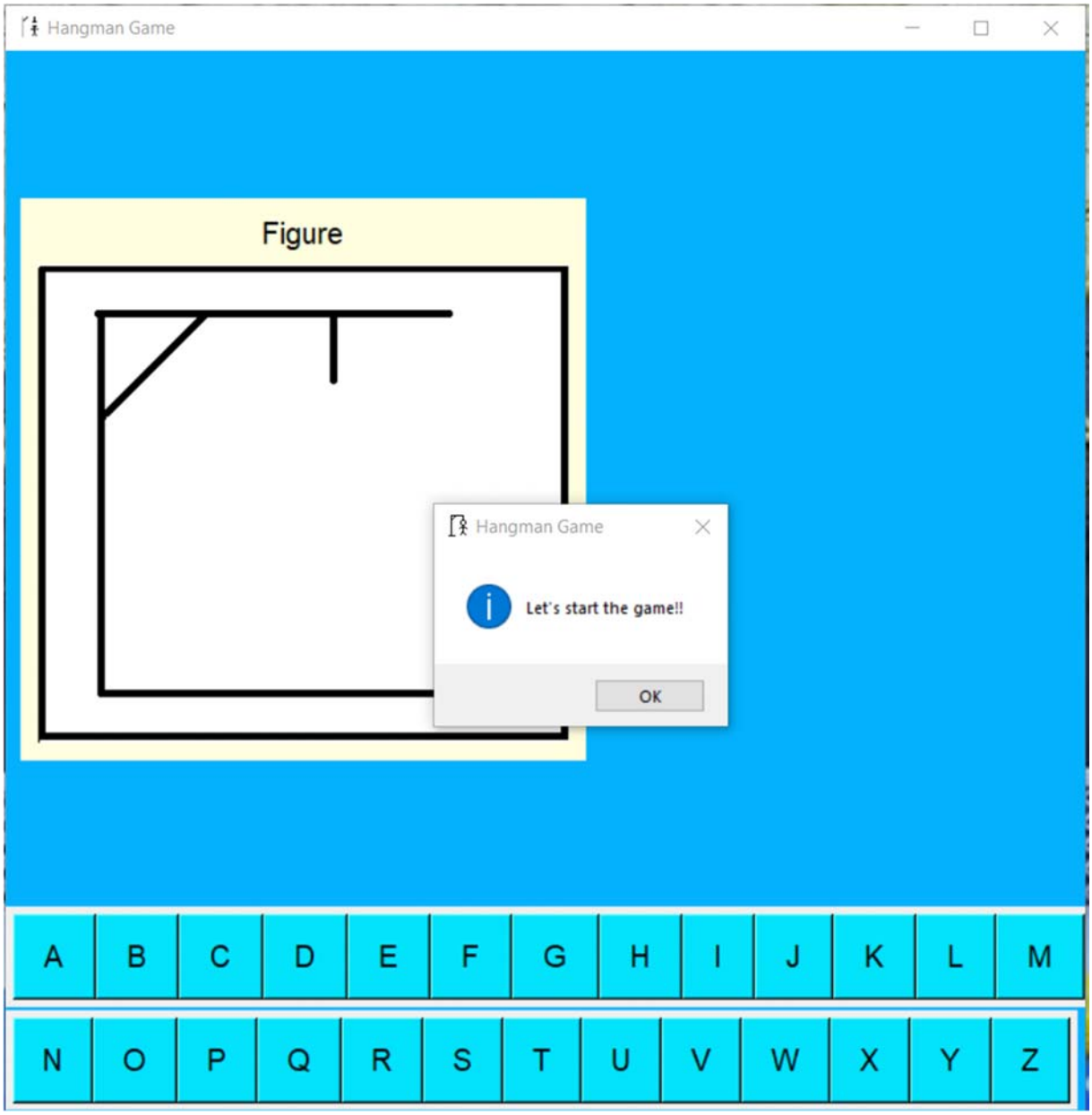

Hangman Game
Hangman Game
HANGMAN
Play Game
Quit
Submit


Hangman Game
Hi, Welcome to Hangman Game...
Enter your name:
User
Clear
Submit
Quit


Hangman Game
Hi, Welcome to Hangman Game...
Enter your name:
Friend
Clear
Submit
Quit


Hangman Game
Hi, Welcome to Hangman Game...
Enter your name:
Friend
Clear
Submit
Quit
Hangman Game
Friend, Are you ready ready to play the game?
Yes
No

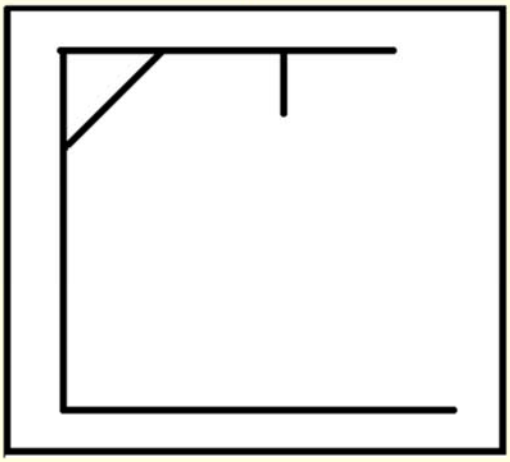

Hangman Game
Hi, Welcome to Hangman Game...
Enter your name:
Friend
Clear
Submit
Quit
Wishes
All the best!!!
OK


Hangman Game
Figure
Hangman Game
Let's start the game!!
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Hangman Game

Hint: Device to measure very low temperature of objects

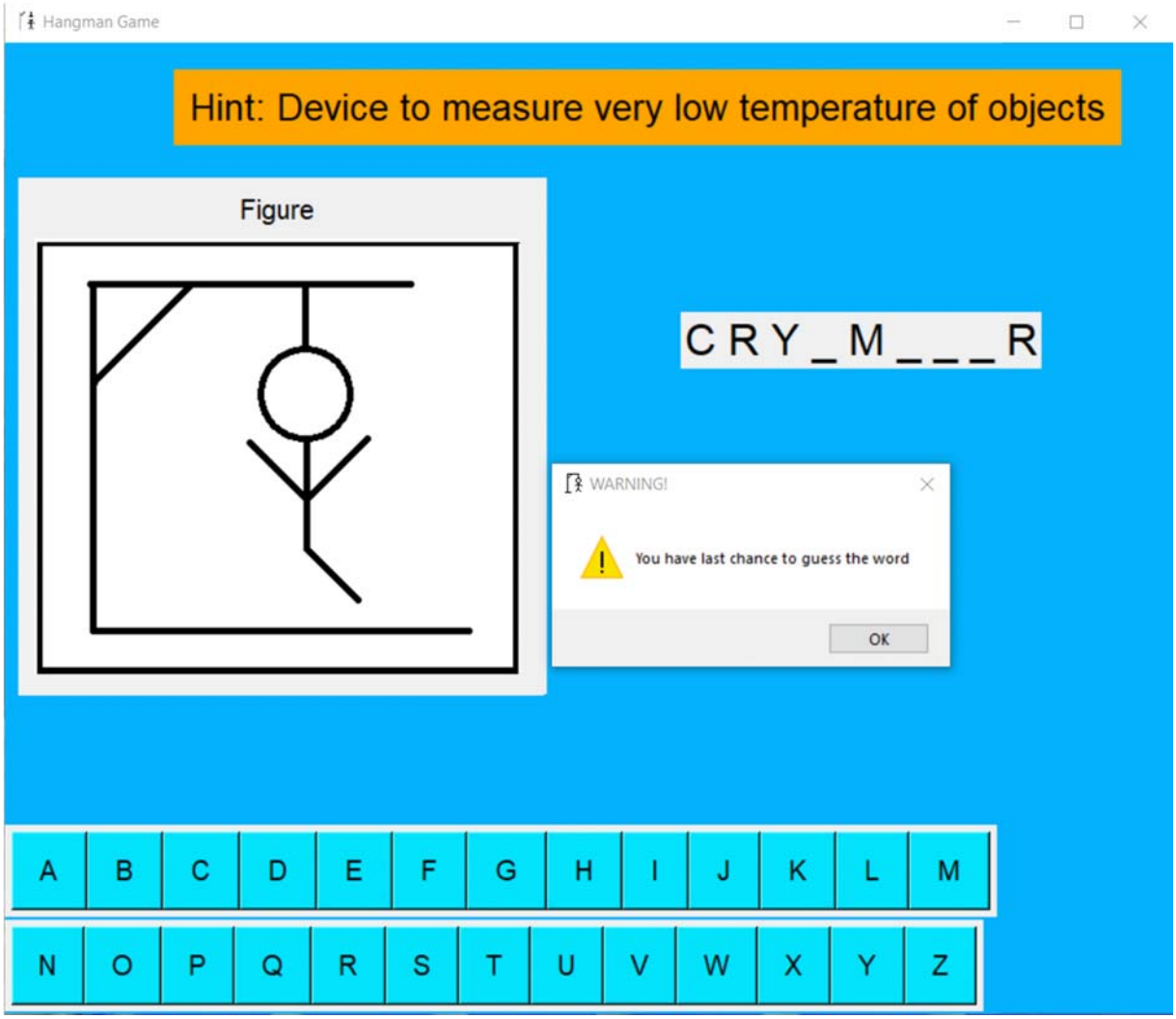
Figure

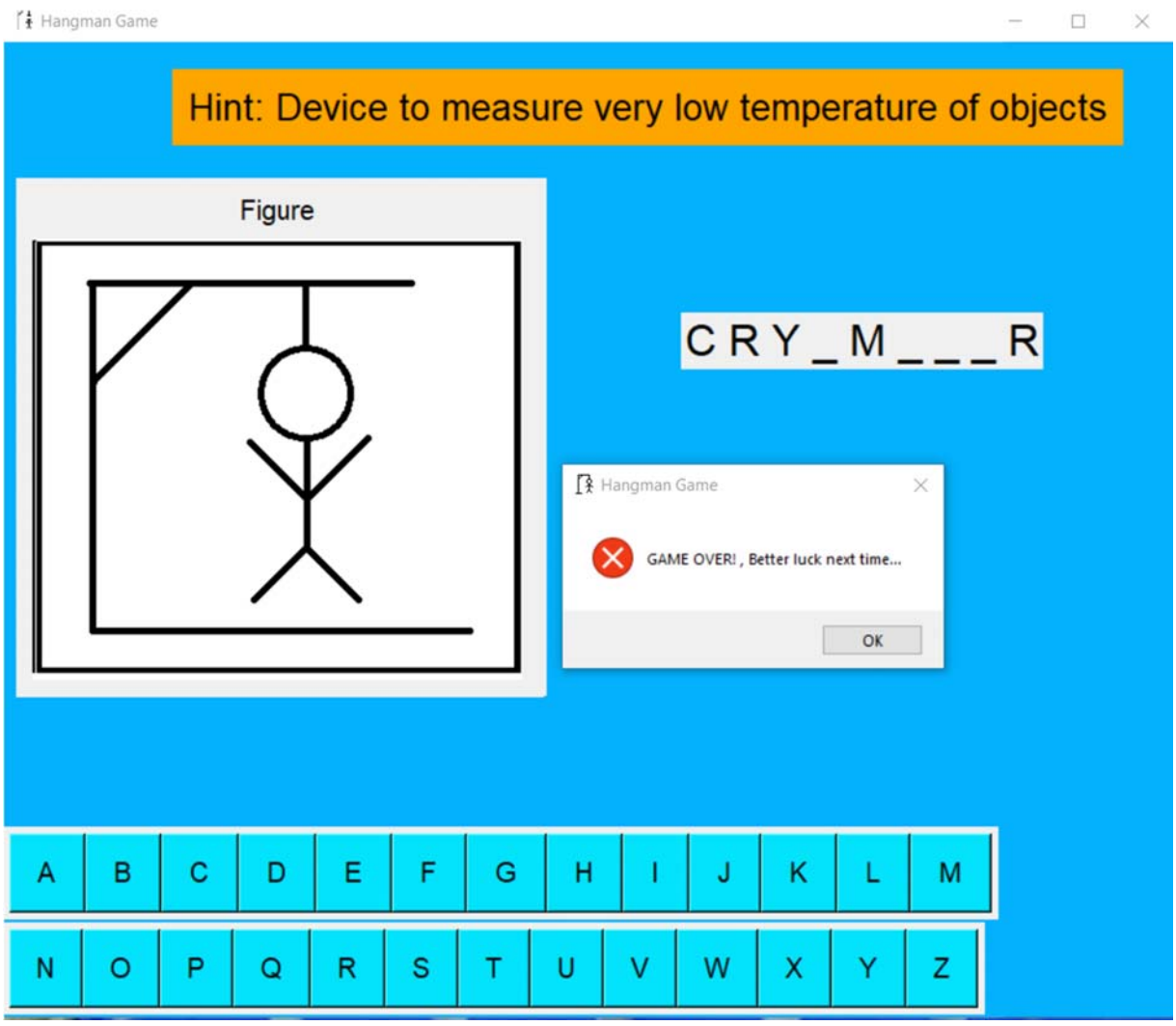


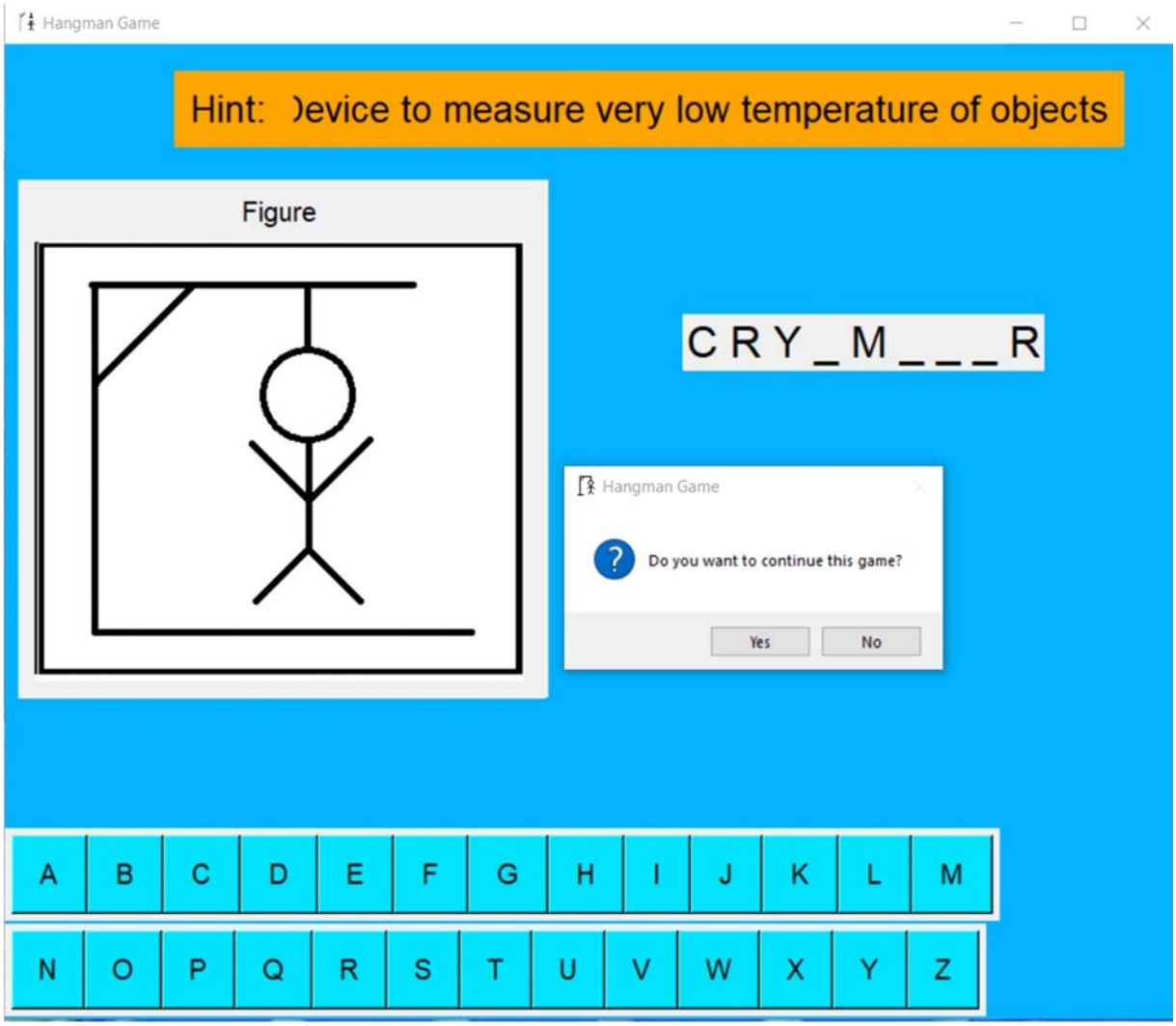
_ _ _ _ _ _ _ _ _

A B C D E F G H I J K L M

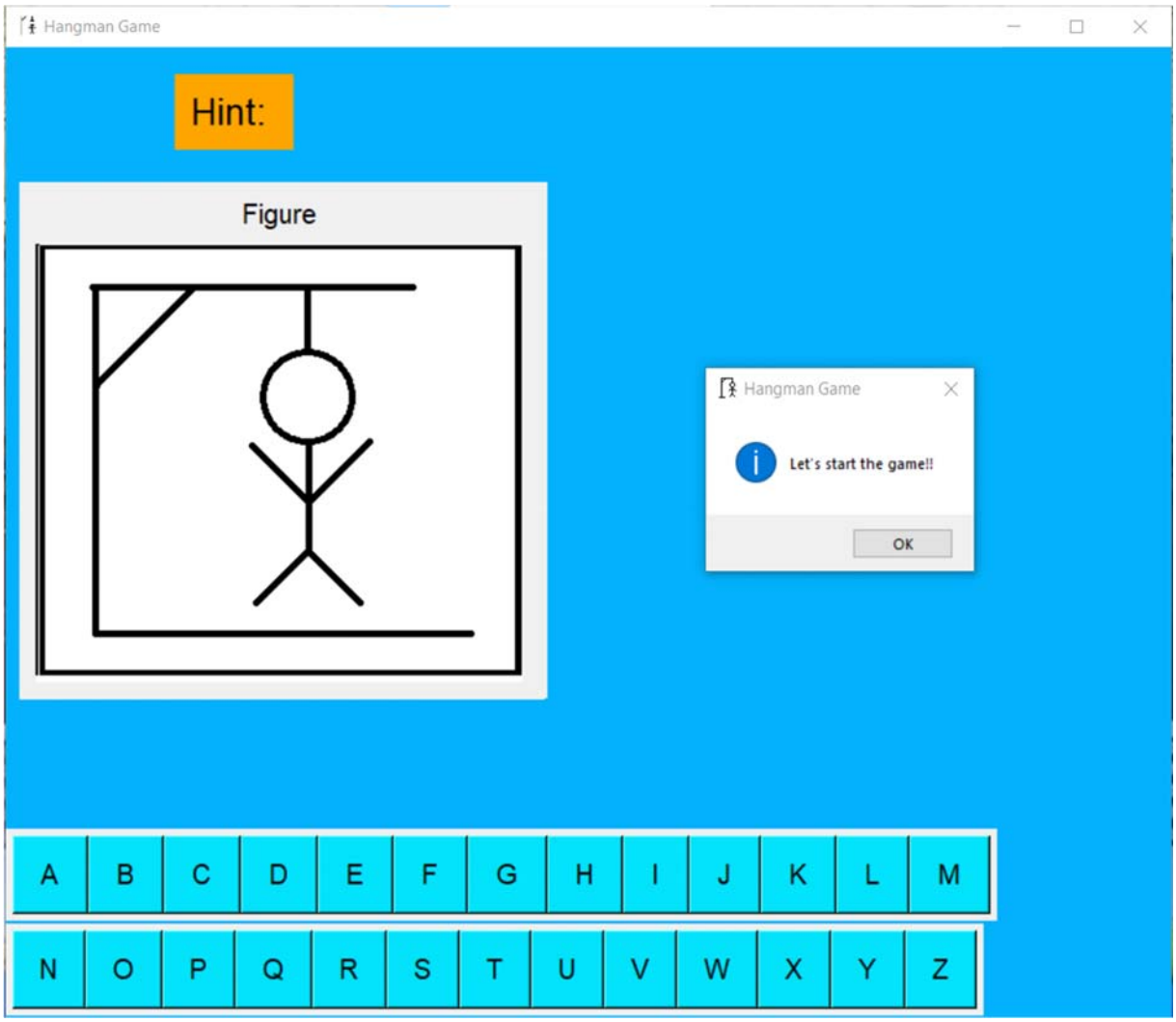
N O P Q R S T U V W X Y Z

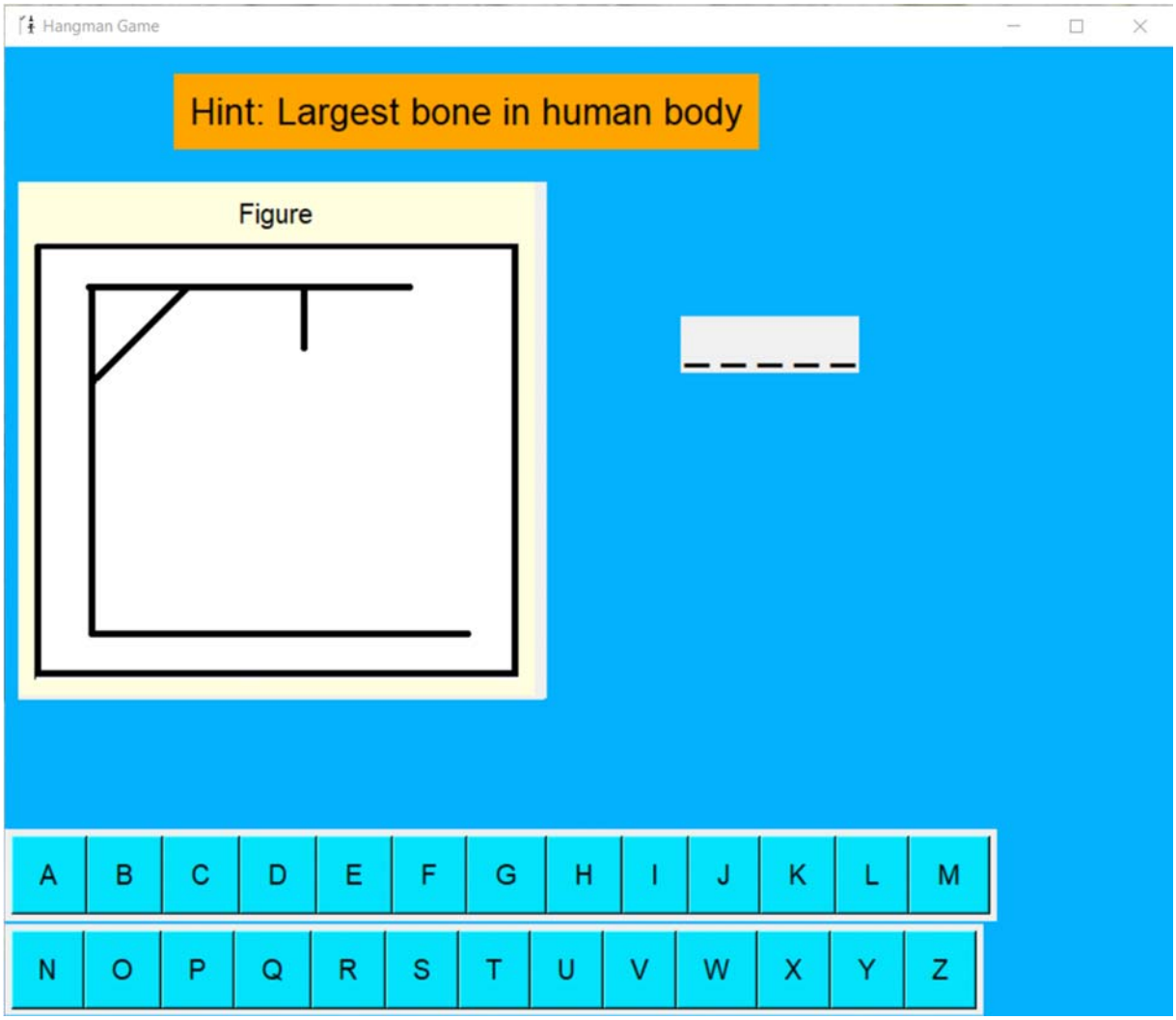

Hangman Game
Hint: Device to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
WARNING!
You have last chance to guess the word
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

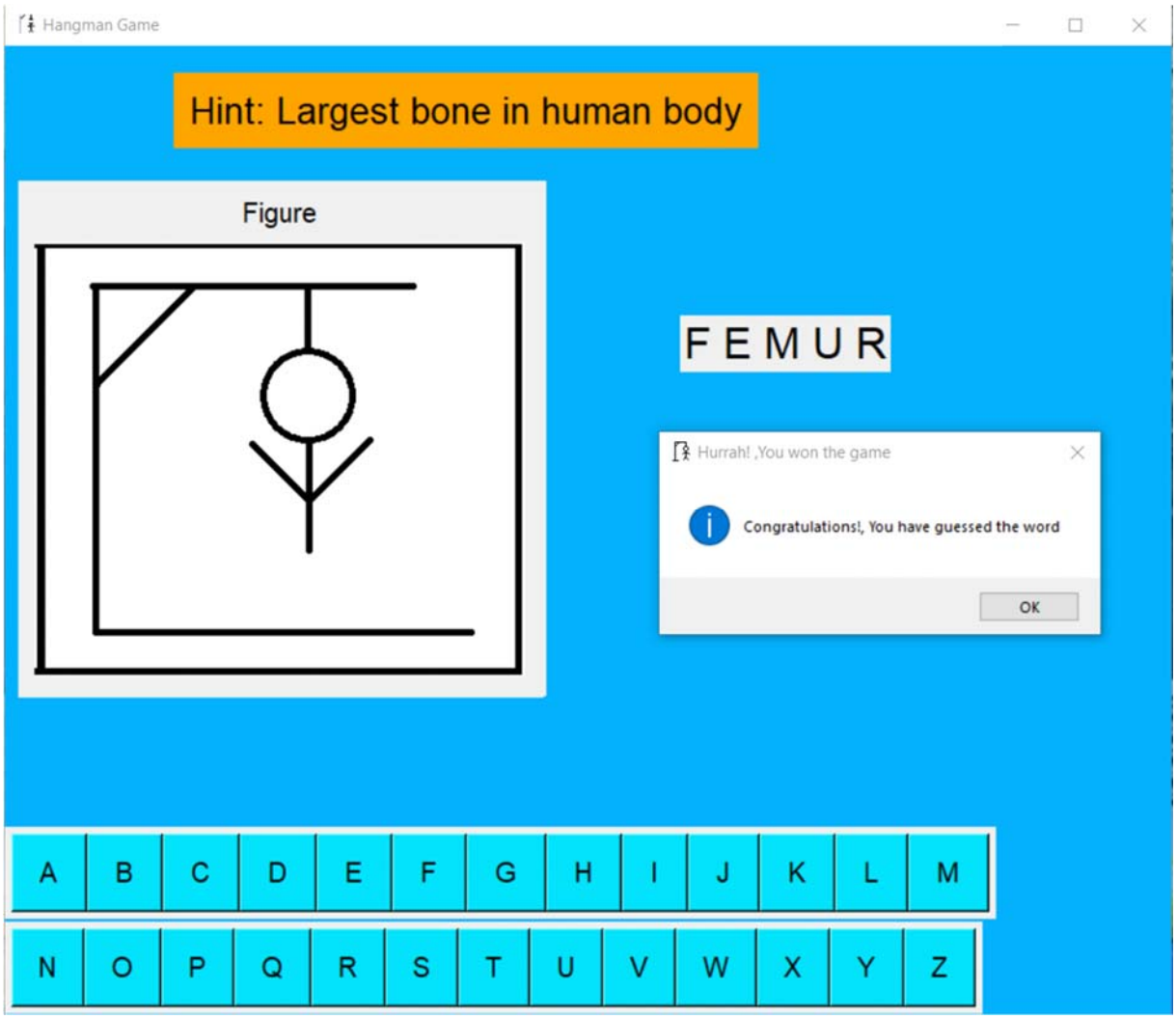

Hangman Game
Hint: Device to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
Hangman Game
GAME OVER! , Better luck next time...
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

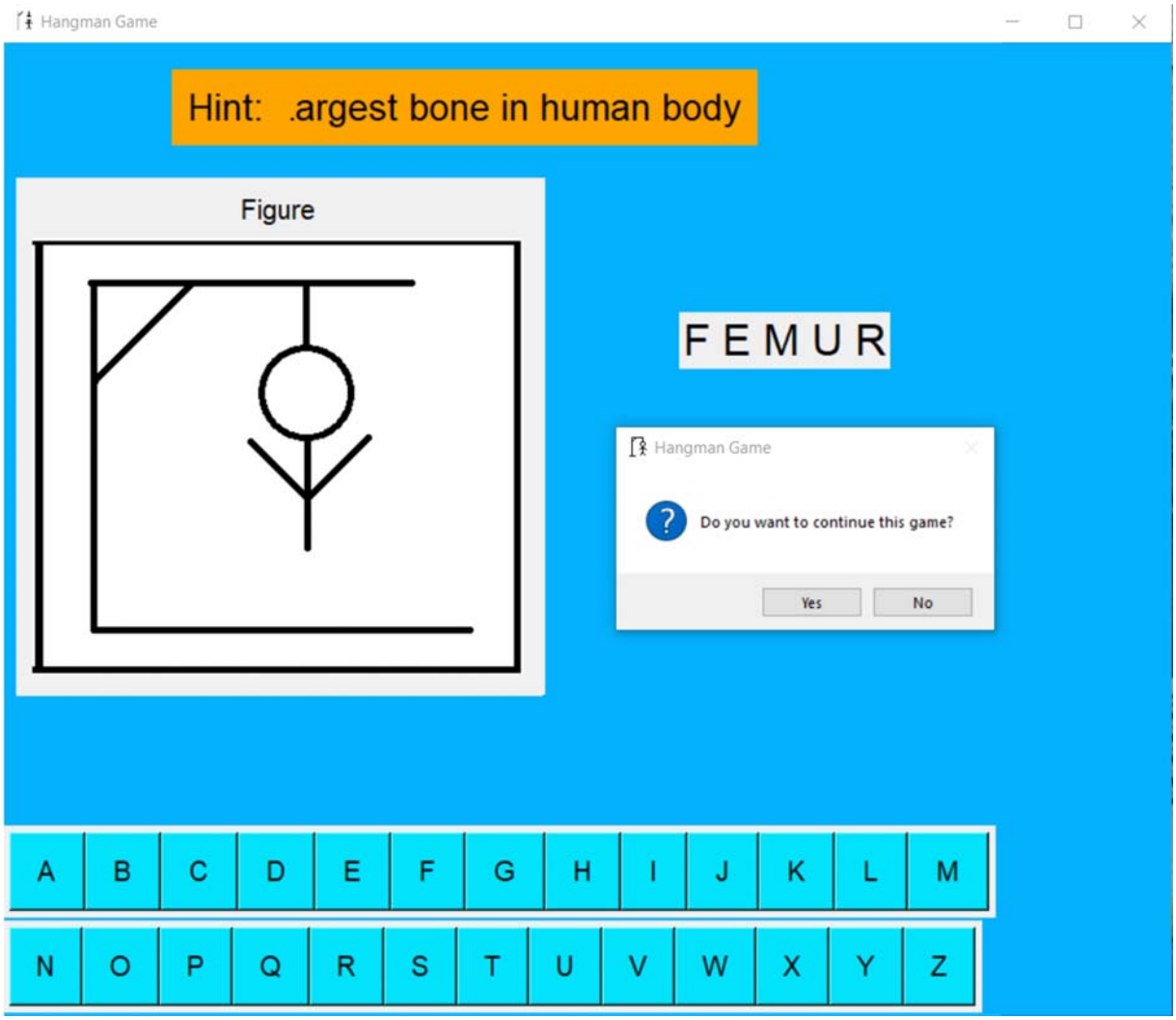

Hangman Game
Hint:)evice to measure very low temperature of objects
Figure
C R Y _ M _ _ _ R
Hangman Game
Do you want to continue this game?
Yes
No
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

If we click on Yes button:-

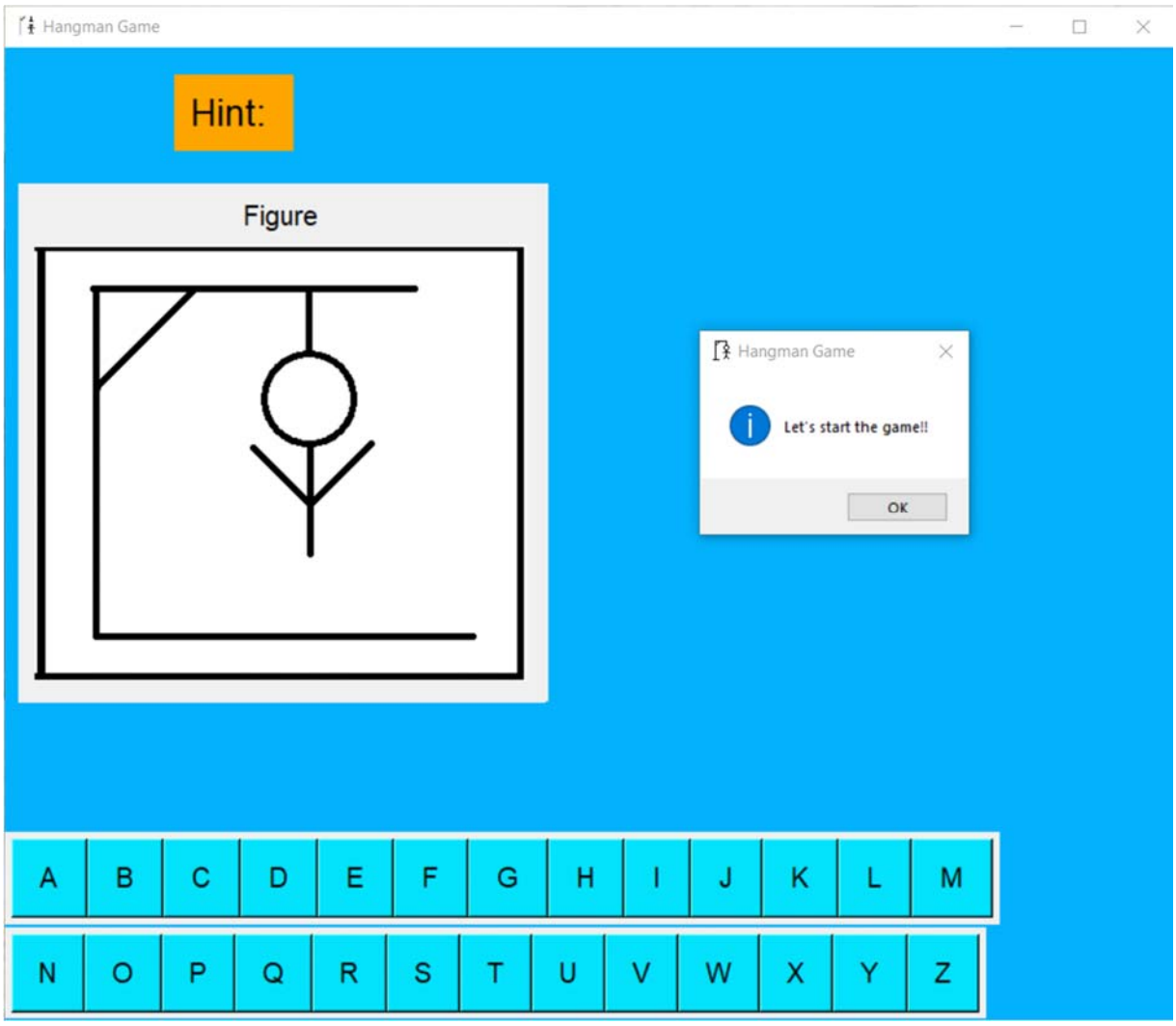


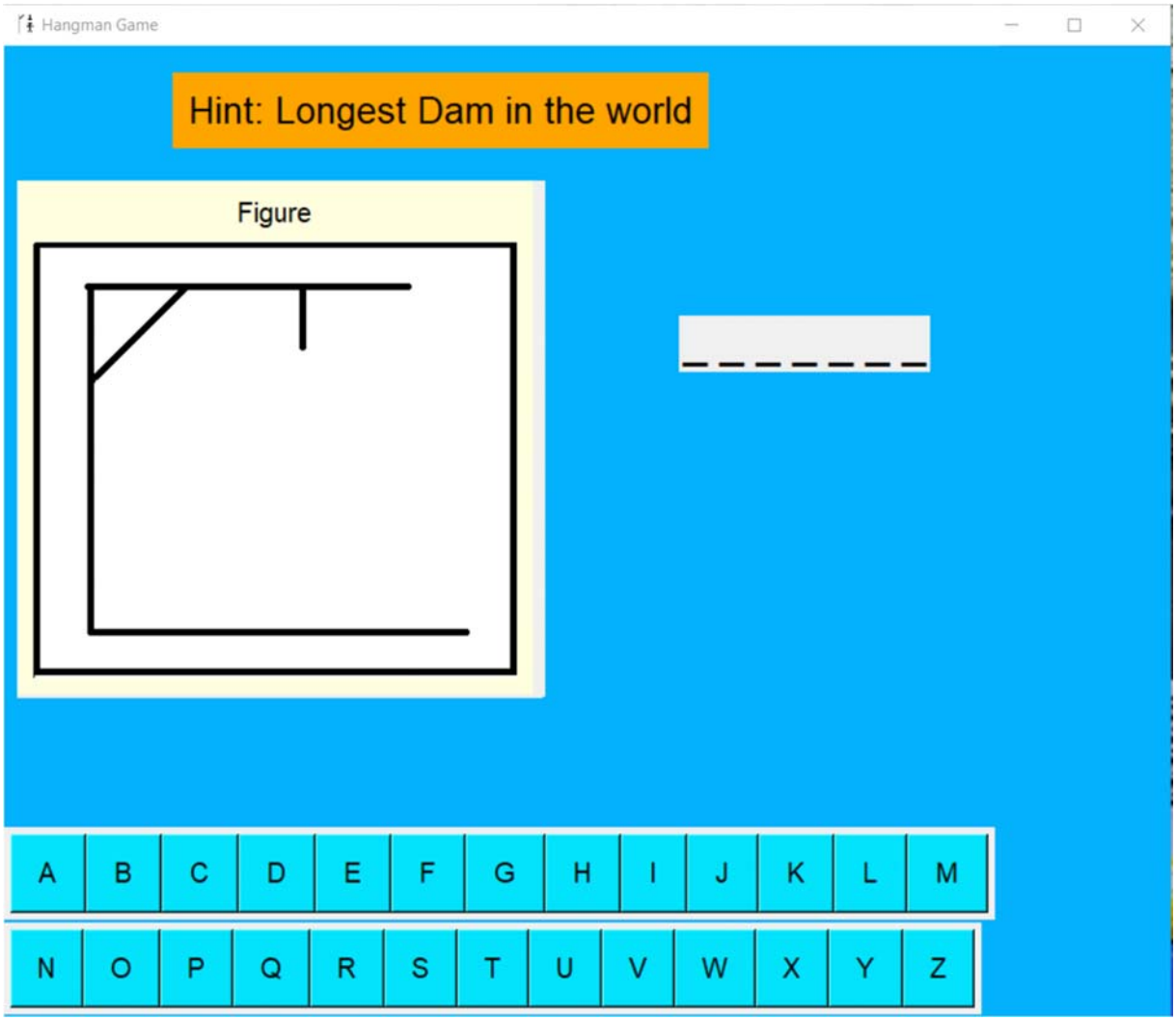

Hangman Game
Hint: Largest bone in human body
Figure
_ _ _ _ _
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

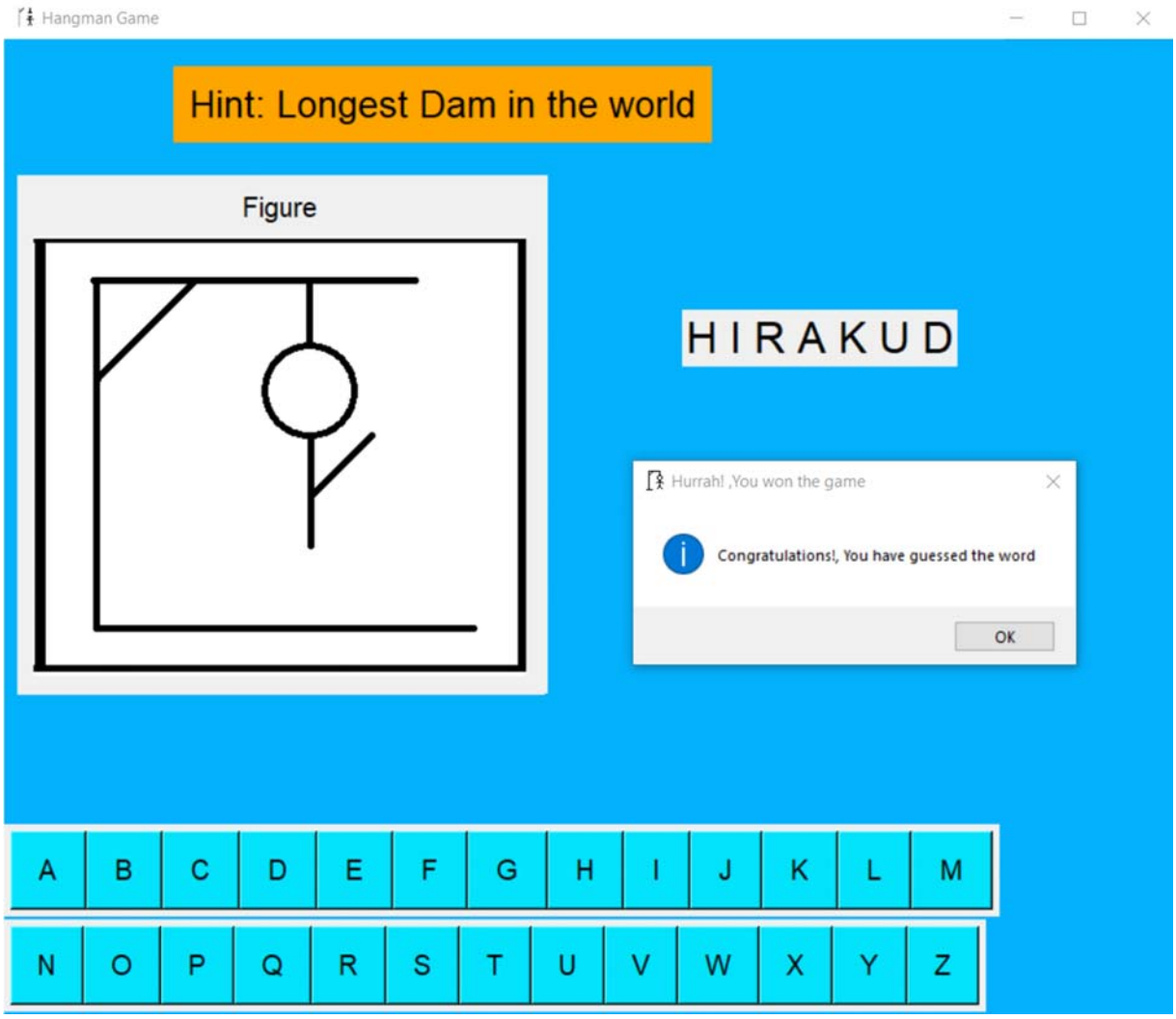

Hangman Game
Hint: Largest bone in human body
Figure
F E M U R
Hurrah! ,You won the game
Congratulations!, You have guessed the word
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

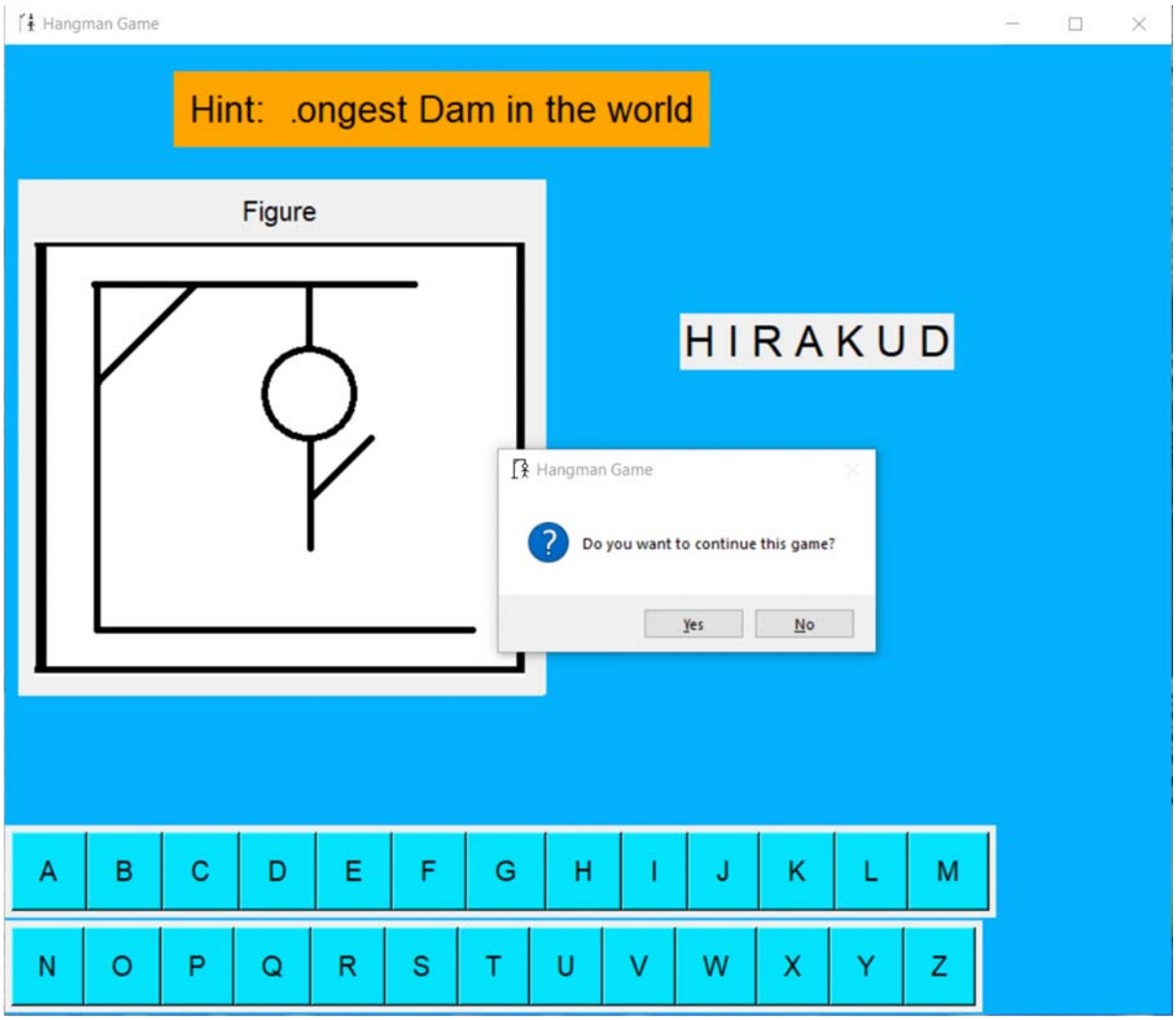

Hangman Game
Hint: .argest bone in human body
Figure
F E M U R
Hangman Game
Do you want to continue this game?
Yes
No
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

If you click on Yes button:-




Hangman Game
Hint: Longest Dam in the world
Figure
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z


Hangman Game
Hint: Longest Dam in the world
Figure
H I R A K U D
Hurrah! ,You won the game
Congratulations!, You have guessed the word
OK
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z



If you click on No button :-

The game will quit and closed.

Conclusion and Future Enhancement

Now, we came to know that how the Hangman Game works and we have seen the game is being performed.

Still our group have to work on it and make the game feel more thrilling and enjoying mode.

We will also try to overcome limitations and try to represent a game in better way.

References

[1] “Youtube,” 26 September 2020. [Online]. Available: https://www.youtube.com/watch?v=TuLxsvK4svQ. [Accessed 23 December 2021].

[2] R. Bansal, "GreekforGreeks," [Online]. Available: https://www.geeksforgeeks.org/python-gui-tkinter/. [Accessed 5 January 2022].