PLAYER 1

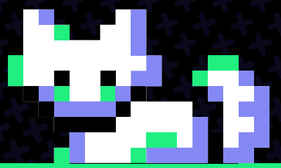
HIGHSCORE 2500

PLAYER 2

# MASTERMIND

MASTERMIND IS A CODE-BREAKING GAME FOR TWO PLAYERS

START MENU SIGN IN



WELCOME

MENU 01 07 12

# TEAM :

1. AKASH BS (22IT008)
2. GURURAJA R (22IT023)
3. NAVEEN KUMAR S (22IT057)
4. VASANTH BUPATHI S (22IT125)

MENU

# ADVANTAGES OF PLAYING MASTERMIND

IMPROVES THE EFFECTIVE CALCULATIVE APPROACH TO SOLVE A PROBLEM

IMPROVES PROPER ASSUMPTION MAKING ABILITY AND LOGICAL REASONING

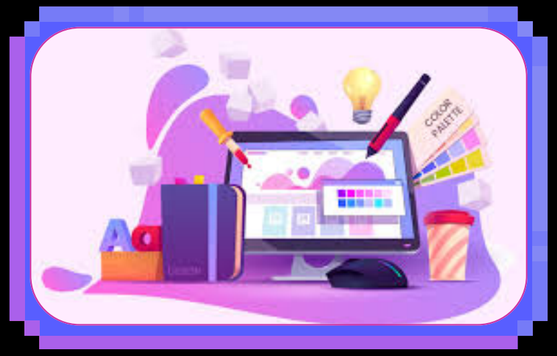

UTILIZING THE ERRORS OCCURED EFFICIENTLY (LEARNING FROM MISTAKES)

DESIGNING MANY SOLUTIONS AND SELECTING THE EFFICIENT ONE

MENU

# LEARNING OUTCOMES FROM THIS CODE

EXPOSURE TO NEW LIBRARIES AVAILABLE IN PYTHON



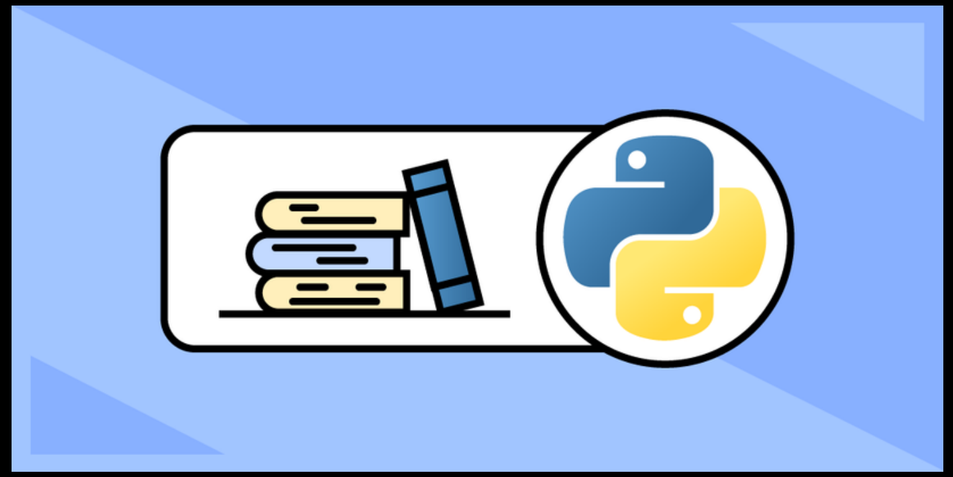

EFFICIENT WAY TO USE USER DEFINED FUNCTIONS

DESIGNING AN EFFICIENT LOGIC AND SOLUTION AMONG OTHER POSSIBLE SOLUTIONS


UTILIZATION OF IN BUILT FUNCTION TO THE MAXIMUM

# REFERENCE PAGE

Libraries Used ->



| | |
|---|---|
| RANDOM | HTTPS://DOCS.PYTHON.ORG/3/LIBRARY/RANDOM.HTML |
| TERMCOLOR | HTTPS://PYPI.ORG/PROJECT/TERMCOLOR |
| COLORED | HTTPS://PYPI.ORG/PROJECT/COLORED/1.0.3 |
| OS | HTTPS://DOCS.PYTHON.ORG/3/LIBRARY/OS.HTML |

# CODE:

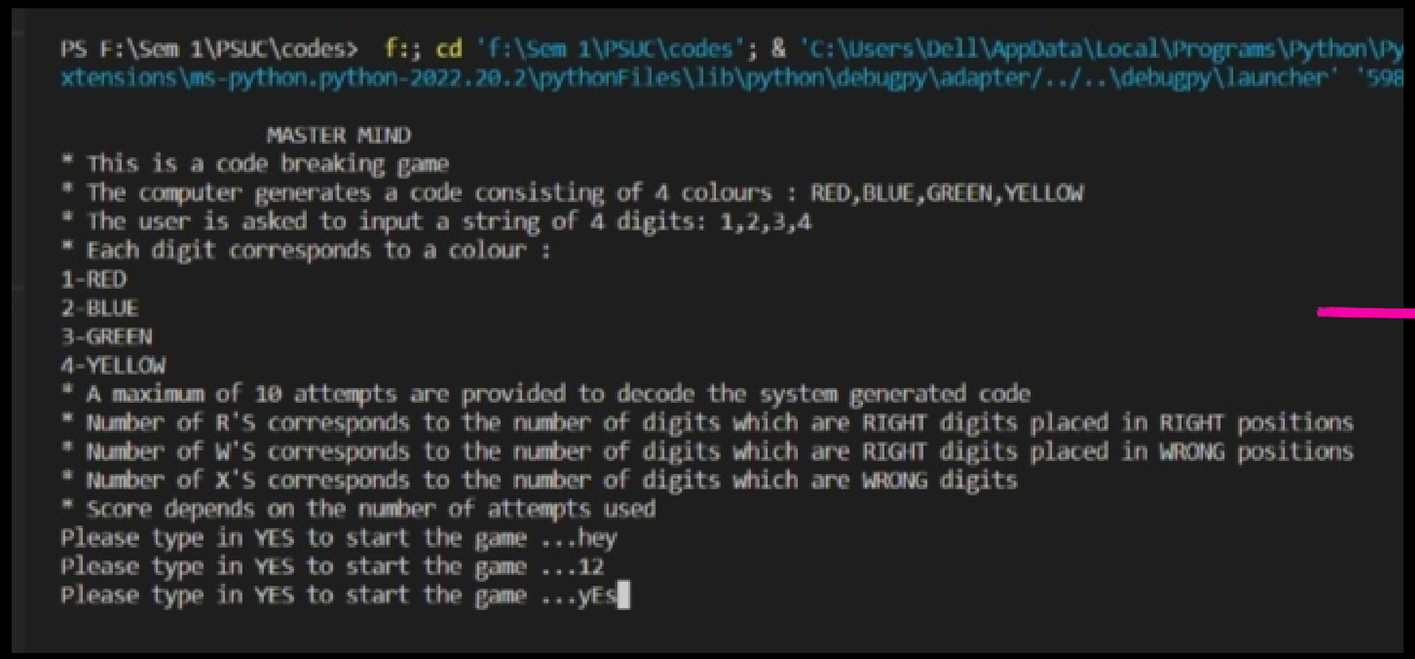
```
import random
from termcolor import colored
import os
def intro():
    print("\t\tMASTER MIND")
    print("* This is a code breaking game")
    print("* The computer generates a code consisting of 4 colours : RED,BLUE,GREEN,YELLOW")
    print("* The user is asked to input a string of 4 digits: 1,2,3,4")
    print("* Each digit corresponds to a colour : \n1-RED \n2-BLUE \n3-GREEN \n4-YELLOW")
    print("* A maximum of 10 attempts are provided to decode the system generated code")
    print("* Number of R'S corresponds to the number of digits which are RIGHT digits placed in RIGHT
positions")
    print("* Number of W'S corresponds to the number of digits which are RIGHT digits placed in WRONG
positions")
    print("* Number of X'S corresponds to the number of digits which are WRONG digits")
    print("* Score depends on the number of attempts used")
    k=True
    while(k):
        choice=input("Please type in YES to start the game ...")
        if(choice.upper()=="YES"):
            k=False
def keydict(temp):
    colour_key={1:"RED",2:"BLUE",3:"GREEN",4:"YELLOW"}
    retVal=colour_key[temp]
    return retVal
def correctCode(listPara):
    for temp in listPara:
        k=keydict(temp)
        print(colored(k[:3],'{}'.format(k.lower())),end="\t")
    print()
def codePrint(listPara):
    for temp in listPara[0]:
        k=keydict(temp)
        print(colored(k[:3],'{}'.format(k.lower())),end="\t")
    for temp in range(listPara[1]):
        print(colored("R","magenta"),end="\t")
    for temp in range(listPara[2]):
        print(colored("W","white"),end="\t")
    for temp in range(listPara[3]):
        print(colored("X","black"),end="\t")
    print()
def codemaker():
    codePara=[1,2,3,4]
    random.shuffle(codePara)
    return codePara
```

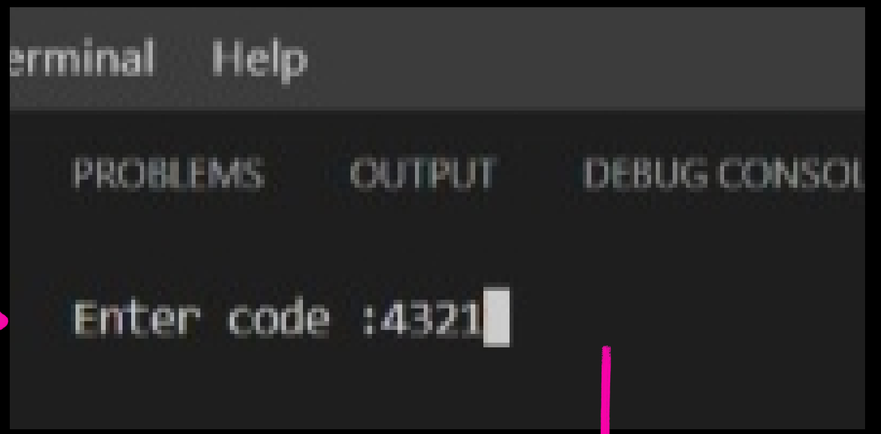
+

```
def codebreaker(codePara):
    colList=[]
    for i in range(10,-1,-1):
        try:
            codeGuessIn=input("Enter code :")
            codeGuess=[int(x) for x in codeGuessIn]
            os.system("cls")
        except:
            os.system('cls')
            print("Wrong input!! Try again")
            continue
        if(len(codeGuess)!=4):
            os.system('cls')
            print("Wrong input!! Try again")
            continue
        flag = 0
        for x in codeGuess:
            if x > 4 or x < 1:
                flag = 1
        if flag == 1:
            os.system('cls')
            print("Wrong choice!! Try again!!")
            continue
        if(codeGuess==codePara):
            break
        else:
            exactDigits=validDigits=0
            for j in range(len(codePara)):
                if(codePara[j]== codeGuess[j]):
                    exactDigits+=1
                elif(codeGuess[j] in codePara):
                    validDigits+=1
            incrctDigits=4-(exactDigits+validDigits)
            colList.append([codeGuess,exactDigits,validDigits,incrctDigits])
            for i in colList:
                codePrint(i)
    return i
intro()
os.system('cls')
code=codemaker()
score=codebreaker(code)
print("\n\n\n\n")
correctCode(code)
if (score in range(1,11)):
    print("Your Score : {}/10".format(score))
else:
    print("Your Score : 0/10")
```

HTTPS://GITHUB.COM/GURU-25/PSUC-MASTERMIND-GAME

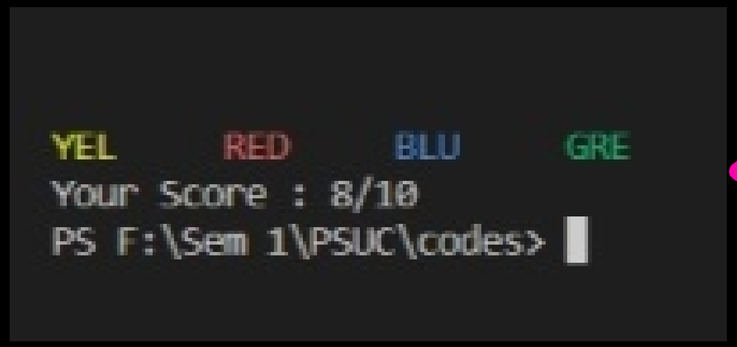
# OUTPUT:


PS F:\Sem 1\PSUC\codes> f:; cd 'f:\Sem 1\PSUC\codes'; & 'C:\Users\Dell\AppData\Local\Programs\Python\Py
xtensions\ms-python.python-2022.20.2\pythonFiles\lib\python\debugpy\adapter/../..\debugpy\launcher' '598
MASTER MIND
* This is a code breaking game
* The computer generates a code consisting of 4 colours : RED,BLUE,GREEN,YELLOW
* The user is asked to input a string of 4 digits: 1,2,3,4
* Each digit corresponds to a colour :
1-RED
2-BLUE
3-GREEN
4-YELLOW
* A maximum of 10 attempts are provided to decode the system generated code
* Number of R'S corresponds to the number of digits which are RIGHT digits placed in RIGHT positions
* Number of W'S corresponds to the number of digits which are RIGHT digits placed in WRONG positions
* Number of X'S corresponds to the number of digits which are WRONG digits
* Score depends on the number of attempts used
Please type in YES to start the game ...hey
Please type in YES to start the game ...12
Please type in YES to start the game ...yEs


erminal Help
PROBLEMS OUTPUT DEBUG CONSOL
Enter code :4321


YEL GRE BLU RED R R W W
Enter code :3412


PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
YEL GRE BLU RED R R W W
GRE YEL RED BLU W W W W
Enter code :


YEL RED BLU GRE
Your Score : 8/10
PS F:\Sem 1\PSUC\codes>


MENU
THANK YOU!
EXIT()