WEEK 02 - ASSIGNMENT - I.A JANITHA CHATHURANGA - STUDENT ID S-000239

February 19, 2023

1.Define two variables and assign them values of 100 and 29. After this, make the interpreter sum up the two numbers and multiply their result by 3. Calculate the 2nd exponent of the previous number and save it to a new variable. Make the program print the result in the following way: The result of the calculation was: 149769 Make sure you use valid variable names and name your variables meaningfully. Make sure that output of your program has indentation as shown in the above example

[1]:
```
a = 100
b = 29
c = (a+b)*3
d = c*c
print("The result of the calculation was:", d)
```

```
The result of the calculation was: 149769
```

[ ]:
```

```

2.Write a program that creates a password by asking the user to input their name, age, year of birth. Save all in separate variables using the right type for each of them. Program should create the password in following way: takes last two digits of year of birth, first 3 letters from name, and the 2nd power of the age according to the example below: Name: John Year of birt: 1995 Age: 26 Password: 95Joh676 Hint: to get the desired output in print() all variables has to be type str

[22]:
```
name = str(input("Name:"))
age = int(input("Age:"))
yob = str(input("Year of birth:"))

n = name[0:3]
y = yob[2:4]
a = age*age
a = str(a)

print(("Password:"),(y),(n),(a), sep="")
```

```
Name:John
Age:26
Year of birth:1995
Password:95Joh676
```

[ ]:

3.Write a program that asks for two numbers. If both numbers are even, the program prints “Both numbers are even.” If only one of the numbers is even, the program prints “One of the numbers is even.”. Finally, if neither of the numbers is even, the program prints “Both numbers are odd”. First number: 5 Second number: 6 One of the numbers is even

[8]:
```
a=int(input("First number:"))
b=int(input("Second number:"))

a = a
b = b

if((a%2)==0) and ((b%2)==0):
    print("Both numbers are even.")

elif((a%2)!=0) and ((b%2)==0):
        print("One of the numbers is even.")

elif((a%2)==0) and ((b%2)!=0):
        print("One of the numbers is even.")

else:
    print("Both numbers are odd")
```

```
First number:5
Second number:6
One of the numbers is even.
```

[ ]:

4.Create a program, which asks the user for a number, and calculates the sum of all positive numbers from 0 to the user given input. If the user gives the number 4, the program calculates the sum 0+1+2+3, if 7, the calculation is 0+1+2+3+4+5+6. Program operates as bellow: Give an integer: 5 The sum was: 10

[23]:
```
n = int(input("Give an integer: "))

total = n * (n-1) / 2

print("The sum was: ",total)
```

```
Give an integer: 5
The sum was:  10.0
```

[ ]:

5.Create a program that can be used as a guessing game. The game is played by Dealer and Player. Dealer generates a random integer number between 0 and 10. Player has to guess it. The program should take input from Player as long as Player inputs same number as Dealer’s input was. Player

gets advice to choose greater or smaller numbers in next choice. Finally, program has to also display the number of tries until the number is guessed. Program operates as follow: Player: 2 Try a greater number. Player: 7 Try a smaller number. Player: 5 That's right! Number of tries: 3 Hint: import random and generate random numbers by using random.randint() in the desired range.

[1]:
```
from random import randint
randnumb = randint(1,10)
guesses = 0
maxGuesses = 5

while guesses < maxGuesses:
    personInput = int(input("Player = "))
    guesses = guesses + 1

    if personInput == randnumb:
        print()
        print("That's right!","Number of tries:", guesses)
        break

    if personInput > randnumb and guesses != maxGuesses:
        print("Try a smaller number.","Number of tries:", maxGuesses - guesses)
        print()

    if personInput < randnumb and guesses != maxGuesses:
        print("Try a greater number.","Number of tries:", maxGuesses - guesses)
        print()

    if guesses == maxGuesses and personInput != randnumb:
        print()
        print("You lost! You ran out of your guesses!")
        print("Dealer - The answer was", randnumb, "!" ,"Number of tries:",␣
 ↪guesses)
```

```
Player = 2
Try a greater number. Number of tries: 4

Player = 7
Try a smaller number. Number of tries: 3

Player = 5

That's right! Number of tries: 3
```

[ ]:
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```

As a bonus (2 points) you can extend your program to allow second play where another player can play and finally also display fi Player1 or Player2 wins, by comparing the numbers of tries and choosing the one with smaller number. Player1: 2 Try a greater number. Player1: 7 Try a smaller

number. Player1: 5 That's right! Number of tries: 3

Player2: 2 Try a greater number. Player2: 7 Try a smaller number. Player2: 6 Try a smaller number. Player2: 5 That's right! Number of tries: 4 Winer is Player1

[3]:
```
from random import randint
randnumb = randint(1,10)
guesses1 = 0
guesses2 = 0
maxGuesses = 10

while guesses1 < maxGuesses:
    personInput1 = int(input("Player1:"))
    guesses1 = guesses1 + 1

    if personInput1 == randnumb:
        print("That's right! Number of tries:", guesses1, "guesses!")
        break

    if personInput1 > randnumb and guesses1 != maxGuesses:
        print("Try a smaller number.", "(", maxGuesses - guesses1,"guesses␣
 ↪left)")

    if personInput1 < randnumb and guesses1 != maxGuesses:
        print("Try a greater number.", "(", maxGuesses - guesses1,"guesses␣
 ↪left)")

    if guesses1 == maxGuesses and personInput1 != randnumb:
        print("You lost! You ran out of your guesses!")
        print("Dealer - The answer was", randnumb, "!" ,"guesses = " , guesses1)
        break

while guesses2 < maxGuesses:
    personInput2 = int(input("Player2:"))
    guesses2 = guesses2 + 1

    if personInput2 == randnumb:
        print("That's right! Number of tries:", guesses2, "guesses!")
        break

    if personInput2 > randnumb and guesses2 != maxGuesses:
        print("Try a smaller number.", "(", maxGuesses - guesses2,"guesses␣
 ↪left)")

    if personInput2 < randnumb and guesses2 != maxGuesses:
        print('Try a greater number.', "(", maxGuesses - guesses2,"guesses␣
 ↪left)")
```

```
    if guesses2 == maxGuesses and personInput2 != randnumb:
        print("You lost! You ran out of your guesses!")
        print("Dealer - The answer was", randnumb, "!" ,"guesses = " , guesses2)
        break



if guesses1 > guesses2:
    print("Winer is Player2")

else:
    print("Winer is Player1")
```

```
Player1:8
Try a greater number. ( 9 guesses left)
Player1:9
Try a greater number. ( 8 guesses left)
Player1:20
Try a smaller number. ( 7 guesses left)
Player1:15
Try a smaller number. ( 6 guesses left)
Player1:12
Try a smaller number. ( 5 guesses left)
Player1:11
Try a smaller number. ( 4 guesses left)
Player1:10
That's right! Number of tries: 7 guesses!
Player2:15
Try a smaller number. ( 9 guesses left)
Player2:12
Try a smaller number. ( 8 guesses left)
Player2:14
Try a smaller number. ( 7 guesses left)
Player2:10
That's right! Number of tries: 4 guesses!
Winer is Player2
```

[ ]: