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Assignment2

Problem solving using while

1)

```
a=0
while a<10:
   print(a)
   a+=1
```

2)

```
num=10
while num<60:
          print(num)
          num+=10
```

3)

```
        t=0
        number=1
        while number<=10:
            t+=number
            number+=1
            print("The sum of numbers from 1 to 100 is:", t)
```

```
The sum of numbers from 1 to 100 is: 1
The sum of numbers from 1 to 100 is: 3
The sum of numbers from 1 to 100 is: 6
The sum of numbers from 1 to 100 is: 10
The sum of numbers from 1 to 100 is: 15
The sum of numbers from 1 to 100 is: 21
The sum of numbers from 1 to 100 is: 28
The sum of numbers from 1 to 100 is: 36
The sum of numbers from 1 to 100 is: 45
The sum of numbers from 1 to 100 is: 55
```

4)

```
number=-1
while number<=10:
    number=int(input("Enter a positive integer: "))
    if number<=0:
        print("That's not a positive Number")
    elif number<=10:
        print("This is a Positive Number")
    else:
        print("Number is Invalid")
```

```
Enter a positive integer: -2
That's not a positive Number
Enter a positive integer: 2
This is a Positive Number
Enter a positive integer: 50
Number is Invalid
```

5)

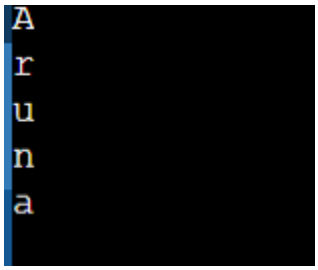
```
correct_password="aruna@97"
password=input("Enter the password: ")
while password!=correct_password:
   print("Incorrect Password")
print("Access granted")
```

```
Enter the password: aruna@97
Access granted
```

Problem Solving Using For

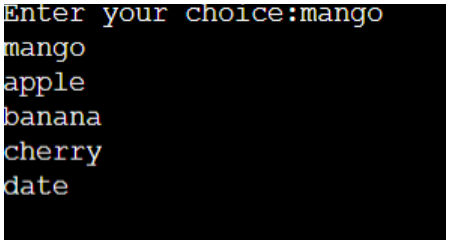
1)

```
var="Aruna"
for char in var:
 print(var)
```



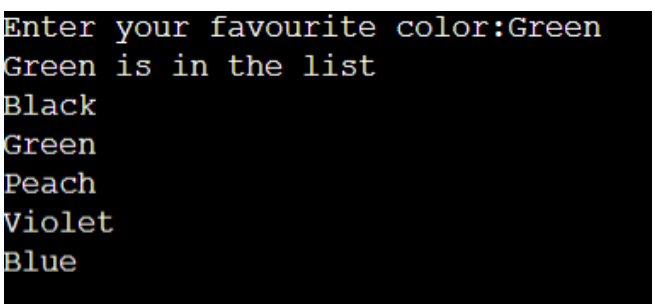
2)

```
fruits=["apple", "banana", "cherry", "date"]
frt=input("Enter your choice:")
print(frt)
for fruit in fruits:
  if fruit=="frt":
    print(frt+fruits)
  else:
    print(fruit)
```



3)

```
colours=["Black","Green","Peach","Violet","Blue"]
favourite_colour=input("Enter your favourite color:")
if favourite_colour in colours:
    print(f"{favourite_colour} is in the list")
else:
    print(f"{favourite_colour} is not in the list")
    print("Here are all the colours in the list:")
for colour in colours:
    print(colour)
```



4)

```
a =int(input("Enter a number: "))
for i in range(1, 9):
  print(f"{a+i}")
```

```
Enter a number: 2
3
4
5
6
7
8
9
10
```

5)

```
n=int(input("Enter a positive integer: "))
total=0
for current in range(1,n+1):
  total+=current
  print(f"The sum of natural numbers up to {n} is {total}")
```

```
Enter a positive integer: 2
The sum of natural numbers up to 2 is 1
The sum of natural numbers up to 2 is 3
```

```
def check_passport_and_ticket(passport_valid, ticket_valid):
 if passport_valid:
   print("Passport is valid")
 elif ticket_valid:
   print("Ticket is valid")
 else:
   print("Sorry! You are not able to travel")
   return False
 return True
 print("Welcome To Chennai Airport")
Departure_Time = "11pm"
passport_valid=True
ticket_valid=True
if check_passport_and_ticket(passport_valid, ticket_valid):
  print("Proceeding to next steps...")
else:
  print("Sorry you can't able to travel")
print("covid 19 test")
def check_covid19(negative,positive):
 degree = int(input("Enter the person's degree: "))
 print(degree)
 if negative :
    if degree<100:
      print("yor are eligible to travel ")
```

```
      print("Here is the copy of your eligible certificate")
    else:
      print("you are not eligible")
 elif positive :
  if degree>100:
     print("you are not eligible")
  else:
     print("Your r sick")
 else:
   print("your are not fit for the test")
check_covid19(negative=True,positive=False)
print("visa checking process")
visa_type="Tourist visa,Business visa,Student visa,Project Visa,Medical visa"
visa=input("Enter your Visa type:")
print(visa)
print("Having covid 19 Certificate:")
Certificate=input("Enter yes or No:")
if Certificate=="yes":
   print("your documents have be rechecked")
else:
    print("Sorry! You are not able to go")
print("Weight Checking")
def Weight_check():
  Weight=int(input("Enter the Weight in kg:"))
  print(Weight)
  if Weight<=15:
    print("Afforable Weight")
  elif Weight>=15:
     print("More than 15kgs")
     print("Pay Extra Price")
  else:
     print("Not able to Travel")
Weight_check()
print("All Details Are Correct")
print("CONGRAJULATIONS! YOU ARE ABLE TO TRAVEL")
```

```
Passport is valid
Proceeding to next steps...
covid 19 test
Enter the person's degree: 96
96
yor are eligible to travel
Here is the copy of your eligible certificate
visa checking process
Enter your Visa type:Tourist
Tourist
Having covid 19 Certificate:
Enter yes or No:yes
your documents have be rechecked
Weight Checking
Enter the Weight in kg:66
66
More than 15kgs
Pay Extra Price
All Details Are Correct
CONGRAJULATIONS! YOU ARE ABLE TO TRAVEL
```

Assignment 3

```
import random

rooms = {
    'Entrance': {'North': 'Hallway', 'Item': None},
    'Hallway': {'South': 'Entrance', 'East': 'Kitchen', 'West': 'Library', 'North': 'Bedroom', 'Item': 'Map'},
    'Kitchen': {'West': 'Hallway', 'Item': 'Key'},
    'Library': {'East': 'Hallway', 'Item': 'Book'},
    'Bedroom': {'South': 'Hallway', 'Item': 'Monster'}
}

inventory = []


def show_status(current_room):
    print("\nYou are in the " + current_room)
    if rooms[current_room]['Item']:
        print("You see a " + rooms[current_room]['Item'])
    print("Inventory:", inventory)
    print("Exits:", ", ".join(rooms[current_room].keys() - {'Item'}))


def move(current_room, direction):
    if direction in rooms[current_room]:
        return rooms[current_room][direction]
    else:
        print("You can't go that way!")
        return current_room


def pick_up_item(current_room):
    item = rooms[current_room]['Item']
    if item and item != 'Monster':
        inventory.append(item)
        rooms[current_room]['Item'] = None
        print("You picked up the " + item)
    else:
        print("There's nothing to pick up here.")


def encounter_monster():
    print("A monster appears!")
    action = input("Do you want to fight (f) or run (r)? ").lower()
    if action == 'f':
        if 'Key' in inventory:
            print("You defeated the monster with the Key!")
        else:
            print("You have no weapon. The monster got you. Game Over.")
            return False
    elif action == 'r':
        print("You ran away safely.")
    return True

def main():
    current_room = 'Entrance'
    game_on = True
```

```
    print("Welcome to the Adventure Game!")
    print("Explore the rooms, find items, and beware of monsters!")

    while game_on:
        show_status(current_room)
        command = input("\nWhat do you want to do? (move [direction] / pick / quit): ").lower().split()

        if command[0] == 'move':
            if len(command) > 1:
                current_room = move(current_room, command[1].capitalize())
                if rooms[current_room]['Item'] == 'Monster':
                    game_on = encounter_monster()
            else:
                print("Move where?")
        elif command[0] == 'pick':
            pick_up_item(current_room)
        elif command[0] == 'quit':
            print("Thanks for playing!")
            game_on = False
        else:
            print("Invalid command!")

if __name__ == "__main__":
    main()
```

```
Welcome to the Adventure Game!
Explore the rooms, find items, and beware of monsters!

You are in the Entrance
Inventory: []
Exits: North
```