Sami Mohamed | R.NO -
Sultan aden | R.NO -
Jibril abdimalik | R.NO -
Salman mahad | R.NO -
Abdirazak ahmed | R.NO -
Subject - IT
Teacher abdulahi

Community School

IT Group Assignment

Class 12b

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Assignment questions

1. Define ar and vr
    - Difference
    - Applications
2. Write 3 applications of big-data and challenges of big-data
3. Write 4 applications of IOT
4. Write a program based on the following requirements
    - Prompt the user to input an integer number from the keyboard
    - Then print all sequences of numbers from 1 to the input number
    - Display the data type of the variable before and after the reassignment
5. Write a python program that calculates the four arithmetic operations
    - The program asks the user to enter one of the four arithmetic symbols. Then
    - It asks the user to enter two integer numbers
    - Based on the operator and numbers entered by the user calculate and display the results

Assignment answer

1. Augmented reality (AR) is the integration of digital information with the user's environment in Real Time. AR overlays digital objects or information onto the real world, blending the virtual and physical realms. AR doesn't replace your surroundings but enhances them. Using a device, such as a smartphone or smart glasses, you can see and interact with virtual elements superimposed on top of the real-world environment. It could be anything from displaying information about nearby landmarks to placing virtual furniture in your living room.

   Virtual reality (VR) is a three-dimensional, computer generated environment which can be explored and interacted with by a person. VR creates a completely virtual and immersive environment, transporting users into a simulated reality. VR typically involves wearing a head-mounted display (HMD) that covers your eyes and surrounds you with a virtual world. It's like diving into a digital alternate universe where you can look around and interact with the virtual environment. With VR, you're fully immersed and disconnected from the physical world.

   1.1 Difference of VR and AR

   - One difference is the devices that they use, AR uses smartphone and smart glasses while VR uses a HMD

- Ar is a combination of your real-time environment and a digital elment while VR is completely a simulated reality that is controlled by the systems.

1.2 applications of VR and AR

- Applications of virtual reality include entertainment (particularly video games), education (such as medical or military training) and business (such as virtual meetings).
- Application of augmented reality include Military AR Uses, Medical AR Uses, AR Apps for Navigation, Advertising and Promotion

2. Applications of big data
    - Learning about consumer shopping habits
    - Customised marketing
    - Predication of user demands
    - Discovering new customer leads

2.1 challenges of big data
    - Storage
    - Processing
    - Security
    - Finding and fixing data quality issues
    - Scaling big data systems

3. Applications of IOT
    - Traffic monitoring
    - Smart cities
    - Smart homes
    - Agriculture

4.

```
number = int(input("Enter a number: ")

for x in range(1, number + 1):

   print(x)

print(type(number))
```

```
def add(x, y):
   return x + y
def subtract(x, y):
   return x - y
def multiply(x, y):
   return x * y
def divide(x, y):
   return x / y

print("Select
operation.\n1.Add(+)\n2.Subtract(-)\n3.Multiply(x)\n4.Divide(/)")

while True:
   choice = input("Choose your operator(1,2,3,4): ")
   if choice in ("1", "2", "3", "4"):
       try:
           num_1 = int(input("Enter first number: "))
           num_2 = int(input("Enter second number: "))
       except ValueError:
           print("Invalid input. please enter a number.")
           continue
       if choice == "1":
           print(num_1, "+", num_2, "=", add(num_1, num_2))
       elif choice == "2":
           print(num_1, "-", num_2, "=", subtract(num_1, num_2))
       elif choice == "3":
           print(num_1, "*", num_2, "=", multiply(num_1, num_2))
       elif choice == "4":
           print(num_1, "/", num_2, "=", divide(num_1, num_2))
       next_calculation = input("Would you like to do another
calculation(yes/no): ")
       if next_calculation == "no":
           break
   else:
       print("Invalid input")
```

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