Mid-semester Examination

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Course code : CSE 315

Course Title : Peripheral & Interfacing.

Ans to the Question num — 1

(a) Ans:

Peripheral:

The devices that are external to the main processing function is called peripheral devices

So, items are not the part of main processing function is peripheral device. For example:

Keyboard, printer, input, output and external storage devices are peripheral devices.

On the other hand,

An interface is the point of interaction with software or computer hardware, or with peripheral devices.

Here 2 type of interfaces,

1. Hardware interface
2. Software interface

USB, serial ports are the example of interfaces.

(b) Ans:

I think the statement is false.

As we see, from the answer of '1(a)' the terms 'peripheral' and 'interfacing' is different than each others.

But, these both are related to each other.

The peripheral devices interacts with a computer system via a interfacing point like ports.

So the terms mentioned are not same but without an interfacing point a peripheral device can't connect

to a computer system.

Peripheral device needs a interfacing point to connect with a computer system. Thus the peripheral device share data and be controled by.

Ans to the Q. No-2

(a) Ans:

analogWrite (Pin Number, PWM value);

this is the syntax use of analog write.

Basically, it can be used to light a LED at varying brightnesses or drive a motor at various speeds.

Here we need to pass two value for that. 1. led Pin 2. fadeValue.

Now, to light up a LED at varying brightnesses exemple code given bellow:

code :

```
int ledPin = 6;

void setUp () {
    pinMod (ledPin, OUTPUT);
}

void loop () {

for (int fadeValue = 0, fadeValue <= 255; fadeValue += 5)
  {
   analogWrite (ledPin, fadeValue);
        // Here brightness is increasing
   delay (30);

}.

for(int fadevalue = 255; fadeValue > 0;
                          fadeValue -= 5)

{
  analogWrite(ledPin, fadeValue);
  delay(30); // brightness decreasing
}
```

} //end void loop

(b) Ans:

If we want to write the function defination ~~below~~ below the void loop() then we have to declare that function above as a prototype.

The rules of prototyping of a function defination:

Return_type function_name(arguments's data types);

Here only the data types, not the variable.

we must give ';' at the end of the prototyping.

Serial.Print() can accept one or two ~~atributs~~ argument. Showing both its functionality with example below:

code	output
Serial.Print(78)	78
(78, BIN)	1001110
(78, DEC)	78
(78, HEX)	4E
(1.23456, 0)	1
(1.23456, 2)	1.23
(1.23456, 4)	1.2346

Ans to the Q. 3 (or)

(a) Ans:

The Internet of things (IOT) refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data.

Basically IOT is a system of interrelated computing devices, mechanical and digital machines, objects or people that are provided with unique identifiers (UID) and the ability to transfer data over a network without requiring human-to-

human or human-to-computer interaction.

Now some of the applications,

1. Transportation and logistics domain.
   Example: Autonomous cars.
2. Healthcare domain
   Example: Remote Patient condition check
3. Smart environment at home, office, plant.
   Example: Google Home.
4. Personal and social Domain.
   Example: smart watch.
5. Enterprise:
   Example Environmental Monitoring

6. Utilities.

Example: Smart Meter By Electricity supply company

7. Futuristic Application Domain

Exaple: Enhanced Game Room

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(12)

(b) Ans:

Here I will use Healthcare domain of IOT.

Here we have four functionality like Tracking, identification and authentication, data collection sensing which can assur the timing of taking medicine and collecting the data and giving a notification about to take the medicine at a particular person.

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Now,
There Many domains in IOT

1. Transportation and logistics domain
2. Healthcare domain
3. Smart environment domain
4. Personal and social domain.