



COMPUTER SCIENCE 8TH

Solved Exercises



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ICT FUNDAMENTALS

Short Response Questions:

1. Differentiate between LAN and WAN.

Ans: **LAN** stands for local area Network. It is a small network inside an office, a school or an IT LAB. It has limited number of computers.

WAN: it means Wide Area Network. This network covers a large scale area such as countries. WAN is collections of small networks. It used for internet to provide worldwide communication.

2. What are the benefits of using networks?

Ans: using networks, we can communicate, share files and hardware like printers across all the devices connected to the network.

3. What is the role of network switch?

Ans: Network switch is a devices used to connect multiple computers together in a network. It receives Data form one computer and sends to another computer using MAC address of the computer.

4. Differentiate between wired and wireless networks.

Ans: in Wired networks we use cable Medium to connect computers together like coaxial cable, Twisted Pair cable and Fiber Optic Cable.

Wireless Network do not use cable for Transmission. They used magnetic waves Like Radio waves, Microwaves and infra-red waves. Examples are Mobile Phone, Wifi, Bluetooth and Tv Remote.

5. List different tasks that can be performed by robots.

Ans: Robots are Intelligent machines that can perform a task just like human beings. They are used in automobile manufacturing, packaging, laboratory and home cleaning etc.

6. Why distributed applications are used?

Ans: distributed application distributes heavy processing load among computers connected on a network.

7. What is the purpose of block chain technology?

Ans: blockchain is a records storing technology where in the stored records cannot be changed or deleted.

8. Describe 3D holographic imaging.

Ans: 3D holographic imaging technology creates 3D images in space using laser light beams.

DIGITAL SKILLS

Short Response Questions:

1. Write down the use of Microsoft excel.

Ans: Microsoft excel is used to automatically calculate data by using formula and functions. It creates charts automatically. It is used for business and financial data.

2. What is the purpose of formula bar?

Ans: formula bar is used to edit formula or content of a cell in Excel.

3. Differentiate between worksheet and workbook?

workbook: one file of excel is called workbook. It is a collection of work sheets.

Work sheet: work sheet is like a page inside a workbook.it contains cells organized in rows and columns used to store data.

4. What are the steps to create a pie chart?

Ans: select the data columns, then click **Insert Tab**, and select Pie chart from charts group.

Algorithmic thinking and problem solving

1. Explain the features of information processing model?

Ans: The features of computer information processing model are below:

- i. Get input
- ii. Process the input according to instructions.
- iii. Generate Output

2. Demonstrate the main steps to solve a problem?

Ans: The main steps to solve a problem are as below:

- i. Understand the problem
- ii. Create a model
- iii. Make an algorithm (pseudocode)
- iv. Write computer program
- v. Test the program
- vi. Verify the output of the program.

3. How nested loops are useful in arranging a calendar?

Ans : if we are making a calendar through nested loops, the outer loop will print the weeks and the inner loop will print the days of week along with dates.

Loop{

Print week

Loop {

Print days

}

}

4. Differentiate between scope and limitations of a problem?

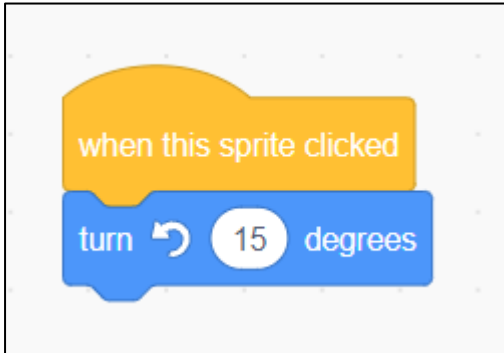
Ans : The aspect of the problem covered in the solution are called scope and those beyond the solution are called limitation.

پر اہلہم کے سالوشن میں جو کچھ کور کرنا ہے وہ سکوپ کہلاتا ہے اور جو کچھ ہمیں سالوشن سے باہر ہوگا وہ لیمیشن کہلاتا ہے۔

Programming

Short Response Questions:

1. For the following code of blocks a sprite will turn to 30 degree, how many clicks are required for a sprite to complete full cycle?



Ans: since full circle have 360 degrees therefore $[360/30 = 12]$ it will take 12 clicks.

4. Take a 4-digit number as input for a year, and check if the year is a leap year or not...

```
year = eval(input("Enter Year:"))  
  
if (year%4==0):  
    print("The year ",year," is a Leap Year")  
  
else:  
    print("The year ",year," is Not a Leap Year")
```

5. Take length and width as input from the user for a quadrilateral and check if it is a square or rectangle.

```
length = eval(input("Enter Length:"))  
width = eval(input("Enter Width:"))  
  
if (length==width):  
    print("The Shape is a square ")  
  
else:  
    print("The shape is a rectangle")
```

6. Write a program in python for the following output (print a triangle)

```
n = eval('6')
for i in range(1,n):

    for j in range(1,n-i):
        print(end=" ")

    for j in range(1,i+1):
        print('* ',end='')

    print('\n')
```

output

```
  *
 * *
* * *
* * * *
* * * * *
```

7. Write a program which displays square of the numbers and print in the form of a triangle

```
n = eval('1')
for i in range(1,5):

    for j in range(1,5-i):
        print(end=" ")

    for j in range(1,i+1):
        print(n*n, ' ',end='')

    n = n+1

    print('\n')
```

```
  1
 4  9
16 25 36
49 64 81 100
```

Digital Citizen ship

1. Who is cyber scout? How can he assist in prevention of cybercrime?

A trained person who spreads awareness in the people about cybercrimes and cyber laws.

2. Why we need cybercrime laws?

We need cyber laws to protect people and data in the online world.

3. How computer systems should be protected from unauthorized access?

Computer and data should be protected from unauthorized access to prevent data from leaking and irrelevant people.

4. How creator of copy write work financially benefits from it?

Copy right protects one's creative art and design. The owner will be paid before using his content.

5. Why digital piracy is crime?

Digital piracy copies and use the content without the permission of its owner and license which is a crime.

6. Why hackers break into computer system?

Hackers breaks into the system to steal data and other business and account information.

7. How spyware can be harmful?

Spyware collects personal information from the computer such as passwords and bank account information, which are later misused.