**Lab 1 Assignment**

**1)Program for finding highest floor number to find Karthik**

**Algorithm: -** As in the question it said Karthik was in highest floor of which mobile showroom is present than other mobile showrooms. So, first we are going read the floors in array which contains mobile showroom which is given by user. For now, we are assuming that first element in array is highest and then we are checking every floor using for loop until we get the highest number.

**Logic: -**

#include<stdio.h>

int main()

{

int i,n,a[100],high;

printf("Enter the number of floors which contains mobilephone showrooms:\n");

scanf("%d",&n);

printf("Enter Floor numbers contains mobilephone showrooms\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

high=a[0];

for(i=1;i<n;i++)

{

if(high<a[i])

{

high=a[i];

}

}

printf("The highest floor in D-Mart to find karthik in mobile showroom is %d",high);

}

**Output: -**

A screenshot of a computer

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**2)To find the courses of Rishitha which are above average marks**

**Algorithm: -**As there are only five courses, we are including an array of size 5 and we are going to read the marks of five courses. Using for loop we are going to add elements, so we get the total sum to find average. To find average we are going divide total sum by no of courses. After getting average we are going to use for loop to get elements and if statement to check every element is greater than is greater than average or not.

**Logic: -**

#include<stdio.h>

int main()

{

int i,a[5],sum=0;

float avg=0;

printf("Enter the marks of five courses:\n");

for(i=0;i<5;i++)

{

scanf("%d",&a[i]);

}

for(i=0;i<5;i++)

{

sum=sum+a[i];

}

avg=sum/5;

printf("The average marks is %f\n",avg);

for(i=0;i<5;i++)

{

if(a[i]>avg)

{

printf("The courses which Rishitha scored more than average are: %d\n",a[i]);

}

}

}

**Output: -**

Text

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**3)To write a program which follows the given condition or not**

**Algorithm: -**First we are going to read the integer given by user and create a temp variable so that the original is still the same. So, we are assigning given number to temp and then we are going to get the length as every time it divisible by 10 it gets increments. We are once again going assign the value to temp and this we are going to get remainders when modulo with 10 and after getting the remainder the last digit of temp is removed by dividing with 10. So, we will get every digit of value and then we are going to create a separate function named power, in this function we are going to multiply as many times of length and we are going to check that total sum of power length is equal to the given number and if it is not satisfying it shows it does not meet the condition.

**Logic: -**

#include <stdio.h>

int power(int,int);

int main()

{

int n,sum=0,temp,r,number=0;

printf("Enter your Number:\n");

scanf("%d",&n);

temp=n;

while(temp!= 0)

{

number++;

temp=temp/10;

}

temp=n;

while(temp!=0)

{

r=temp%10;

sum=sum+power(r,number);

temp=temp/10;

}

if(n==sum)

{

printf("Length of number is %d\n",number);

printf("It follows the condition as the sum of digits of power length is %d which is equal to the given number %d",sum,n);

}

else

printf("Number %d not meets the condition\n",n);

return 0;

}

int power(int n, int r)

{

int i,p=1;

for(i=1;i<=r;i++)

p=p\*n;

return p;

}

**Output: -**

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A screenshot of a computer

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**Time of Submission: - 12:20 pm, 9/9/21**