

VIT - Vellore

Name: RONIT MEXSON .

Email: ronit.mexson2024@vitstudent.ac.in

Roll no: 24BAI0036

Phone: 9999999999

Branch: ARUMUGA ARUN R_OOPS

Department: admin

Batch: VL2024250502365

Degree: admin

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT v_Structured and OOP_Lab 3_COD_Medium_Pointers and Arrays

Attempt : 1

Total Mark : 20

Marks Obtained : 20

Section 1 : Coding

1. Problem Statement

Connie is monitoring temperature data and needs a program to find the highest and lowest temperatures in an array. Write a program that takes user-input temperatures, identifies the maximum and minimum values, and prints them.

Ensure the program showcases the use of pointers in accessing array elements.

Answer

```
// You are using GCC
#include<stdio.h>
int main(){
```

```

int n;
scanf("%d",&n);
int a[20];
int *pa = &a[0];
for(int i = 0; i<n; i++){
    scanf("%d",pa+i);
}
int max = a[0];
int min = a[0];
for(int i = 0; i<n; i++){
    if(*(pa+i) > max){
        max = *(pa+i);
    }
    if(*(pa+i) < min){
        min = *(pa+i);
    }
}
printf("Highest temperatures: %d\n",max);
printf("Lowest temperatures: %d",min);
return 0;
}

```

Status : Correct

Marks : 10/10

2. Problem Statement

Becky is analyzing a list of integers. She needs to find the maximum absolute difference between the two elements in the list.

Write a program that takes an integer n as input, followed by n integers, and outputs the maximum absolute difference between any two elements in the list using pointers.

Answer

```

// You are using GCC
#include<stdio.h>
int main(){
    int n = 0;
    scanf("%d",&n);
    int a[20];

```

```
int *pa = &a[0];
for(int i = 0; i<n; i++){
    scanf("%d",pa+i);
}
int min = a[0];
int max = a[0];
for(int i = 0; i<n; i++){
    if(*(pa+i)<min){
        min = *(pa+i);
    }
    if(*(pa+i)>max){
        max = *(pa+i);
    }
}
printf("%d",(max-min));
return 0;
}
```

Status : Correct

Marks : 10/10