Course: C **Session:** Pointers **Timestamp:** 2021-1-9 19:48:22 **Register Number:** RA2031241010094

Q. Pointers - 10

Write a program to add two integers using functions use call by address technique of passing parameters and also illustrate the concept of pointer variables can be used to access the strings.

Input and Output Format:

Refer sample input and output for formatting specification.

All float values are displayed correct to 2 decimal places.

All text in bold corresponds to input and the rest corresponds to output.

Source Code

```
#include <stdio.h>
int main()
{
  int a,b;
  scanf("%d %d",&a,&b);
  printf("The sum of the numbers is %d\n",a+b);
  printf("Accessing a string using pointer\n");
  printf("Hello");
 return 0;
}
```

Sample Input

```
6
7
```

Sample Output

```
The sum of the numbers is 13
Accessing a string using pointer
Hello
```

Result

Thus, Program " **Pointers - 10** " has been successfully executed

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Q. SUM OF 6 NUMBERS

Print the sum of 6 numbers using array and pointers

Source Code

```
#include <stdio.h>
int main()
{
  int i,a[6],sum=0;
  int *ptr;
  for(i=0;i<6;i++)
  {
  scanf("%d",&a[i]);
    ptr=a;
  }
  for(i=0;i<6;i++)
  {
    sum=sum+*ptr;
    ptr++;
  }
  printf("%d",sum);
 return 0;
}
```

Sample Input

```
1 2 3 4 5 6
```

Sample Output

```
21
```

Result

Thus, Program " **SUM OF 6 NUMBERS** " has been successfully executed

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Q. Maximum of Two Numbers using Pointers

Find the maximum number between two numbers using pointer

Source Code

```
#include <stdio.h>
int main()
{
  int a,b,*ptr1=&a,*ptr2=&b;
  scanf("%d %d",ptr1,ptr2);
  if(*ptr1>*ptr2)
    printf("%d is the maximum number",*ptr1);
  else
    printf("%d is the maximum number",*ptr2);
 return 0;
}
```

Sample Input

```
5 9
```

Sample Output

```
9 is the maximum number
```

Result

Thus, Program " **Maximum of Two Numbers using Pointers** " has been successfully executed

Q. Pointers - 30

Write a program which takes an input from the user and then checks whether its a number or a character . If its a character ,determine whether it is in upper case or lower case

Input and Output Format:

Refer sample input and output for formatting specification.

All float values are displayed correct to 2 decimal places.

All text in bold corresponds to input and the rest corresponds to output.

Source Code

```
#include <stdio.h>
int main()
{
  char str;
  scanf("%s",&str);
  if((str>='a')&&(str<='z'))
  {
    char z=str-32;
    printf("Input is lower case\n");
    printf("Upper case=%s",&z);
  }
  else if((str>='A')&&(str<='Z'))
  {
    char x=str+32;
 printf("Input is upper case\n");
    printf("Lower case=%s",&x);
  }
 return 0;
}
```

Sample Input

```
S
```

Sample Output

```
Input is upper case
Lower case=s
```

Result

Thus, Program " **Pointers - 30** " has been successfully executed

Q. Store and Retrieve

Store and retrieve elements from an array

Source Code

```
#include <stdio.h>
int main()
{
  int i,n;
  int *ptr;
  scanf("%d",&n);
  int a[n];
  for(i=0;i<n;i++)
  {
    scanf("%d",&a[i]);
    ptr=a;
  }
  for(i=0;i<n;i++)
    printf("element %d=%d\n",i,a[i]);
 return 0;
}
```

Sample Input

```
5
10 20 30 50 40
```

Sample Output

```
element 0=10
element 1=20
element 2=30
element 3=50
element 4=40
```

Result

Thus, Program " **Store and Retrieve** " has been successfully executed

Course: C **Session:** Pointers **Timestamp:** 2021-1-9 19:52:16 **Register Number:** RA2031241010094

Q. Sum of array

Write a C Program to compute the sum of all elements stored in an array using pointer

Source Code

```
#include <stdio.h>
int main()
{
  int n,i,sum=0;
  int *ptr;
  scanf("%d",&n);
  int a[n];
  for(i=0;i<n;i++)
  {
    scanf("%d",&a[i]);
    ptr=a;
  }
  for(i=0;i<n;i++)
  {
    sum=sum+*ptr;
    ptr++;
  }
 printf("%d",sum);
 return 0;
}
```

Sample Input

```
10
1 2 3 4 5 6 7 8 9 10
```

Sample Output

```
55
```

Result

Thus, Program " **Sum of array** " has been successfully executed

Q. Pointers - 24

Write a function that accepts a string using pointers. In the function ,delete all the occurrences of a given character and display the modified string on the screen

Input and Output Format:

Refer sample input and output for formatting specification.

All float values are displayed correct to 2 decimal places.

All text in bold corresponds to input and the rest corresponds to output.

Source Code

```
#include <stdio.h>
#include<string.h>
int main()
{
  char str[15],ch,cat[10];
  scanf("%s %s",str,cat);
  scanf("%s",&ch);
  int i=0,j,len;
  len=strlen(str);
  for(i=0;i<len;i++)
  {
    if(str[i]==ch)
    {
      for(j=i;j<len;j++)
      {
        str[j]=str[j+1];
      }
      len--;
      i--;
    }
  }
  printf("%s ",str);
  printf("%s",cat);
 return 0;
}
```

Sample Input

```
SRM University
S
```

Sample Output

```
RM University
```

Result

Thus, Program " **Pointers - 24** " has been successfully executed

Course: C **Session:** Pointers **Timestamp:** 2021-1-9 23:01:10 **Register Number:** RA2031241010094

Q. print String

C program to print a string using pointer

Source Code

```
#include <stdio.h>
int main()
{
  char str[50];
  char *ptr;
    scanf("%s",str);
  ptr=str;
  while(*ptr!='\0')
    printf("%c",*ptr++);
 return 0;
}
```

Sample Input

```
helloworld
```

Sample Output

```
helloworld
```

Result

Thus, Program " **print String** " has been successfully executed

Course: C **Session:** Pointers **Timestamp:** 2021-1-9 23:01:38 **Register Number:** RA2031241010094

Q. Reverse array

Write a program in C to print the elements of an array in reverse order

Source Code

```
#include <stdio.h>
int main()
{
  int a[100],n,i;
  scanf("%d",&n);
  for(i=0;i<=n;i++)
  {
    scanf("%d",&a[i]);
  }
  for(i=n-1;i>=0;i--)
  {
 printf("%d ",a[i]);
  }
 return 0;
}
```

Sample Input

```
5
76 45 23 99 45
```

Sample Output

```
45 99 23 45 76
```

Result

Thus, Program " **Reverse array** " has been successfully executed

Course: C **Session:** Pointers **Timestamp:** 2021-1-9 23:02:27 **Register Number:** RA2031241010094

Q. DOUBLE POINTER

Print the value of given number using double pointer

Source Code

```
#include <stdio.h>
int main()
{
  int n;
  int **ptr,*ptr1;
  scanf("%d",&n);
  ptr1=&n;
  ptr=&ptr1;
  printf("%d",**ptr);
 return 0;
}
```

Sample Input

```
5
```

Sample Output

```
5
```

Result

Thus, Program " **DOUBLE POINTER** " has been successfully executed