**Assignment-20**

1. Write a function to swap values of two in variables of calling function. (TSRN)

Ans-#include<stdio.h>

void swap(int\*,int\*);

void swap(int \*a,int \*b)

{

int temp;

temp=\*a;

\*a=\*b;

\*b=temp;

}

int main()

{

int x,y;

printf("enter two numbers");

scanf("%d%d",&x,&y);

swap(&x,&y);

printf("x=%d y=%d",x,y);

return 0;

}

1. Write a function to swap strings of two char arrays of calling functions. (TSRN)

Ans-#include<stdio.h>

void swap(char \*\*a,char \*\*b)

{

char \*temp=NULL;

temp=\*a;

\*a=\*b;

\*b=temp;

}

int main()

{

char str[30],str1[30],\*x,\*y;

printf("enter two strings");

fgets(str,30,stdin);

fgets(str1,30,stdin);

swap(str,str1);

printf("%s %s",str,str1);

return 0;

}

1. Write a function to sort an array of int type values. [ void sort(int \*ptr,int size); ]

Ans-#include<stdio.h>

void sort(int \*ptr,int n)

{

int i,j,temp;

for(i=0;i<n-1;i++)

{

for(j=0;j<n-1;j++)

{

if(\*(ptr+j)>\*(ptr+j+1))

{

temp=\*(ptr+j);

\*(ptr+j)=\*(ptr+j+1);

\*(ptr+j+1)=temp;

}

}

}

}

int main()

{

int arr[20],N,i;

printf("enter the size");

scanf("%d",&N);

printf("enter the array elements");

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

{

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

}

sort(arr,N);

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

{

printf("%d ",arr[i]);

}

return 0;

}

1. Write a program in C to demonstrate how to handle the pointers in the program.

Ans-#include<stdio.h>

int main()

{

int x=10,\*p,\*\*q,\*\*\*r;

p=&x;

q=&p;

r=&q;

printf("%d %d %d %d\n",x,\*p,\*\*q,\*\*\*r);//10,10,10,10

printf("%d %d %d %d\n",&x,p,\*q,\*\*r);//100,100,100,100

printf("%d %d %d\n",&p,q,\*r);//200,200,200

printf("%d %d\n",&q,r);//300,300

printf("%d\n",&r);//500

return 0;

}

5. Write a program to find the maximum number between two numbers using a pointer

Ans-#include<stdio.h>

int main()

{

int a,b,\*x,\*y;

printf("enter two numbers");

scanf("%d%d",&a,&b);

x=&a;

y=&b;

if(\*x>\*y)

{

printf("%d is greater",\*x);

}

else

printf("%d is greater",\*y);

return 0;

}

6. Write a program to calculate the length of the string using a pointer

Ans-#include<stdio.h>

int main()

{

char str[30],\*p;

int i;

printf("enter a string");

fgets(str,20,stdin);

p=str;

for(i=0;\*(p+i);i++);

printf("Length of the string is %d",i-1);

return 0;

}

7. Write a program to count the number of vowels and consonants in a string using a pointer.

Ans- #include<stdio.h>

int main()

{

int n,i,vowel=0,consunent=0;

char str[30],\*ptr;

printf("enter a string");

fgets(str,20,stdin);

ptr=str;

for(i=0;\*(ptr+i);i++)

{

if(\*(ptr+i)=='A'||\*(ptr+i)=='a'||\*(ptr+i)=='E'||\*(ptr+i)=='e'||\*(ptr+i)=='I'||\*(ptr+i)=='i'||\*(ptr+i)=='O'||\*(ptr+i)=='o'||\*(ptr+i)=='U'||\*(ptr+i)=='u')

vowel++;

else if((\*(ptr+i)>=65&&\*(ptr+i)<=90)||(\*(ptr+i)>=97&&\*(ptr+i)<=122))

consunent++;

}

printf("%s In that string vowel=%d and consunent=%d",str,vowel,consunent);

return 0;

}

8. Write a program to compute the sum of all elements in an array using pointers.

Ans-#include<stdio.h>

int main()

{

int n,a[100],i,\*ptr,sum=0;

printf("enter array size");

scanf("%d",&n);

printf("enter array elements");

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

{

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

}

ptr=a;

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

{

sum=sum+\*(ptr+i);

}

printf("sum of array elements is %d",sum);

return 0;

}

9. Write a program to print the elements of an array in reverse order using pointer.

Ans-#include<stdio.h>

void reverse(int \*a,int N)

{

int i,j,temp;

for(i=0,j=N-1;i<=j;i++,j--)

{

temp=\*(a+i);

\*(a+i)=\*(a+j);

\*(a+j)=temp;

}

}

int main()

{

int i,arr[100],n;

printf("enter size of the array: ");

scanf("%d",&n);

printf("Enter elements:\n");

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

{

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

}

reverse(arr,n);

printf("In reverse order\n");

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

{

printf("%d ",arr[i]);

}

return 0;

}

10. Write a program to print a string in reverse using a pointer

Ans-#include<string.h>

#include<stdio.h>

int main()

{

char str[30],\*p;

int i,l;

printf("enter a string");

fgets(str,20,stdin);

l=strlen(str);

p=str;

for(i=l-1;\*(p+i);i--)

{

printf("%c",\*(p+i));

}

return 0;

}