**Pointers**

**Assignment - 20**

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

#include<stdio.h>

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

int main()

{

int a,b;

printf("ENTER FIRST NO=");

scanf("%d",&a);

printf("ENTER SECOND NO=");

scanf("%d",&b);

swap(&a,&b);

printf("a=%d b=%d",a,b);

}

int swap(int \*p,int \*q)

{

int t;

t=\*p;

\*p=\*q;

\*q=t;

}

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

#include<stdio.h>

#include<string.h>

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

int main()

{

char str1[20],str2[20];

printf("ENTER FIRST STRING NO=");

scanf("%s",str1);

printf("ENTER SECOND STRING NO=");

scanf("%s",str2);

swap(str1,str2);

printf("STRING1=%s STRING2=%s",str1,str2);

}

int swap(char \*p,char \*q)

{

char t[20];

strcpy(t,p);

strcpy(p,q);

strcpy(q,t);

}

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

#include<stdio.h>

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

int main()

{

int a[10];

printf("ENTER 10 NUMBERS=");

for(int i=0;i<10;i++)

{

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

}

sort(a,10);

return 0;

}

void sort(int \*ptr,int \*size)

{

int t;

for(int i=0;i<size;i++)

{

for(int j=i+1;j<size;j++)

{

if(\*(ptr+i)<\*(ptr+j))

{

t=\*(ptr+i);

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

\*(ptr+j)=t;

}

}

}

for (int i = 0;i <size;i++)

printf("%d ",\*(ptr + i));

}

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

#include<stdio.h>

int main()

{

int n;

int \*p;

printf("ENTER A NO=");

scanf("%d",&n);

printf("ADDRESS OF %d=%d",n,&n);

printf("\nUSING POINETER TO STORE ADDRESS OF %d",n);

p=&n;

printf("\ncontent OF POINTER=%p",p);

return 0;

}

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

#include<stdio.h>

int main()

{

int a,b;

int \*p,\*q;

int \*large;

printf("ENTER FIRST NO=");

scanf("%d",&a);

printf("ENTER SECOND NO=");

scanf("%d",&b);

p=&a;

q=&b;

if(\*p>\*q)

{

large=p;

}

else

{

large=q;

}

printf("GREATEST NO=%d",\*large);

return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

char str[200],\*p;

printf("ENTER STRING=");

gets(str);

p=str;

int l=strlen(p);

printf("LENGTH OF STRING=%d",l);

return 0;

}

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

Pointer

#include<stdio.h>

#include<string.h>

int main()

{

char str[200],\*p;

int vcount=0,concount=0;

printf("ENTER STRING=");

gets(str);

p=str;

///logic for vowel and consonants.................................

while (\*p !='\0')

{

if ((\*p>=65 && \*p<=90) || (\*p>=97 && \*p<=122))

{

if (\*p == 'A' || \*p == 'E' || \*p == 'I' || \*p == 'O' ||

\*p == 'U' || \*p == 'a' || \*p == 'e' || \*p == 'i' ||

\*p == 'o' || \*p == 'u')

{

vcount++;

}

else

{

concount++;

}

}

p++;

}

printf("NO OF VOWELS ARE=%d\n",vcount);

printf("NO OF CONSONANTS ARE=%d",concount);

return 0;

}

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

#include<stdio.h>

int main()

{

int a[5],\*p,sum=0;

printf("ENTER 5 ELEMENTS OF AN ARRAY=");

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

{

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

}

p=&a;

printf("\nSUM OF ALL 5 NO ARE=");

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

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

printf("%d",sum);

return 0;

}

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

#include<stdio.h>

int main()

{

int a[5],\*p;

printf("ENTER 5 ELEMENTS OF ARRAY=");

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

{

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

}

p=&a;

printf("\nARRAY IN REVERSE ORDER=");

for(int i=5;i>0;i--)

printf("%d",\*(p+i-1));

return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

char str[20],\*p;

printf("ENTER STRING=");

fgets(str,20,stdin);

p=str;

///reverse order string

fflush(stdin);

printf("\nREVERSE ORDER STRING=%s",strrev(p));

return 0;

}