1. Yeshwanth number

#include<stdio.h>

int fact(int d)

{

int fact=1;

while(d>0)

{

fact\*=d;

d--;

}

return fact;

}

int strong(int num)

{

int sum=0,temp=num;

while(temp>0)

{

int digit=temp%10;

sum+=fact(digit);

temp/=10;

}

if(sum==num)

return 1;

else

return 0;

}

int main()

{

int n,x;

printf("Enter a number : ");

scanf("%d",&n);

x=strong(n);

if(x)

printf("Yes\n");

else

printf("No\n");

}

Problem 2

Input Output

7894 Four Nine Eight Seven

1592 Two Nine Five One

1369 Nine Six Three One

#include<stdio.h>

int main()

{

int num,rev=0,d;

scanf("%d",&num);

while(num>0)

{

d=num%10;

if(d==1)

printf("One ");

else if(d==2)

printf("Two ");

else if(d==3)

printf("Three ");

else if(d==4)

printf("Four ");

else if(d==5)

printf("Five ");

else if(d==6)

printf("Six ");

else if(d==7)

printf("Seven ");

else if(d==8)

printf("Eight ");

else if(d==9)

printf("Nine ");

else

printf(“Zero”);

num/=10;

}

}

1. Seating arrangement problem

#include<stdio.h>

int main()

{

int num,d,ans;

char st[2];

scanf("%d",&num);

d=num%8;

if(d==0){

ans=num-1;

st[0]='S';

st[1]='L';

}

else if(d==1){

ans=num+3;

st[0]='L';

st[1]='B';

}

else if(d==2){

ans=num+3;

st[0]='M';

st[1]='B';

}

else if(d==3){

ans=num+3;

st[0]='U';

st[1]='B';

}

else if(d==4){

ans=num-3;

st[0]='L';

st[1]='B';

}

else if(d==5){

ans=num-3;

st[0]='M';

st[1]='B';

}

else if(d==6){

ans=num-3;

st[0]='U';

st[1]='B';

}

else if(d==7){

ans=num+1;

st[0]='S';

st[1]='U';

}

printf("%d%s",ans,st);

}

Problem 1:

Input Output

10,25,9 25,9

11, 98, 105 105, 11

Description :- Print the Higher and lower number from given three numbers.

#include<stdio.h>

int main()

{

int num1,num2,num3;

scanf("%d %d %d",&num1,&num2,&num3);

int max=num1>num2&&num1>num3?num1:num2>num2?num2:num3;

int min=num1<num2&&num1<num3?num1:num2<num3?num2:num3;

printf("%d %d",max,min);

}

Problem 2:

Input Output

145 20

120 0

1889 576

Description : Print the multiplication of digits in a given number. For example, test case1, 145 if you multiply 1\*4\*5 you will get the output as 20.

#include<stdio.h>

int main()

{

int digit,num,prod=1;

scanf("%d",&num);

while(num>0)

{

digit=num%10;

prod\*=digit;

num/=10;

}

printf("%d",prod);

}

1. The program must accept an integer array of size N containing only 0's and 1's as the input. The program must bring all the zeros to the front and all the ones to the end of the array. Then the program must print the modified array as the output

Input Output

0 1 1 0 1 0 0 0 0 0 1 1 1

1 1 1 0 0 1 1 1

#include<stdio.h>

int main()

{

int ar[100],n,i;

scanf("%d",&n);

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

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

int c1=0,c2=0;

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

if(ar[i]==0)

c1++;

else

c2++;

for(i=0;i<c1;i++)

printf("0 ");

for(i=0;i<c2;i++)

printf("1 ");

}

Problem-1:

Input Output

{1,2,4,6,5} 1 4 12 20 5

{2,4,5,6,7} 2 10 24 35 7

#include<stdio.h>

int main()

{

int a[100];

int I, n;

printf(“Enter the size of array : “);

scanf(“%d”,&n);

printf(“Enter array values : “);

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

{

scanf(“%d”,&a[i]);

}

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

{

if(i==0||i==4)

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

else

printf("%d ",a[i-1]\*a[i+1]);

}

}

Problem-2:

Input Output

{19,1,24,79,88} 1 1 0 1 0

{11,22,44,33,66} 1 0 1 0 1

Description :-You need to print 1 in place of Odd item and print 0 in the place of Even item from the given list.

#include<stdio.h>

int main()

{

int ar[100],n,i;

printf(“Enter the size of array : “);

scanf("%d",&n);

printf(“Enter array values : “);

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

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

}

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

{

if(ar[i]%2==0)

printf("0 ");

else

printf("1 ");

}

}

1. The program must accept an integer N as the input. The program must print the square root of each digit in N with the precision up to 2 decimal places as the output.

Input Output

23578 1.41 1.73 2.24 2.65 2.83

149 1.00 2.00 3.00

#include<stdio.h>

#include<math.h>

int main()

{

int num,r;

scanf("%d",&num);

while(num>0)

{

r=num%10;

printf(“%.2f”,sqrt(r));

num/=10;

}

}

Problem-1:

Input Output

{10 20 12 18 90} Yes

{10 20 12 18 19} No

Description :-You need to print Yes or No according to the given test case. For example, test case 1, 20 12 18 - all three are greater than 10 and lesser than 90. Hence YES is printed. For second test case, 20 is not lesser than 19. Hence NO is printed.

#include<stdio.h>

int main()

{

int flag=1,check=1,ar[100],n,i;

scanf("%d",&n);

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

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

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

{

if(ar[0]>ar[i])

{

flag=0;

break;

}

if(ar[n-1]<ar[i])

{

check=0;

break;

}

}

if(flag && check)

printf("Yes");

else

printf("No");

}

1. Your program need to accept the series of integer numbers as an array and it has to print the output in the following order.

Input Output

{1,2,3,4,2,2,3}, Target Number 2 !! !!!!! !!!!!!

Explanation:-Your program needs to search for the key in the given array and when it is found the in the list it needs to print the position. According to the position we need to print the output with ! Sign.

#include<stdio.h>

int main()

{

int ar[100],n,i,x;

printf(“Enter the size of Array : “);

scanf("%d",&n);

printf(“Enter the array elements\n”);

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

{

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

}

printf(“Enter the target element : “);

scanf("%d",&x);

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

{

if(ar[i]==x)

{

int j=i+1;

while(j>0)

{

printf("!");

j--;

}

printf(" ");

}

}

}

1. Your program need to accept a string (alphanumeric) includes white spaces also.

Input Output

application Testing TESTING

sit Test app TEST

H e be o n E

Explanation :-Your program needs to print the second word in upper case format from the given input. For the test case 1, find first white space and print the next to it and stop it when the next white space occurs. By using ASCII values, if the range is between 65 to 90 then print the character same, if the character ASCII between the range of 97 to 122 then convert that into upper case and print the character.

#include<stdio.h>

int main()

{

char st[100];

int i,j,key;

scanf("%[^\n]s",st); //Read a string with space

for(i=0;st[i]!=’ ‘;i++);

for(key=i+1;st[key]!=' ';key++)

{

if(st[key]>=97 && st[key]<=122)

{

st[key]=st[key]-32;

printf("%c",st[key]);

}

else

printf(“%c”,st[key]);

}

}

Problem 1:

Input Output

Appl18ication89 1889

Woring147 147

Explanation :-Given string is alphanumeric; You need to extract the digits from the given string. For test case 1, Appl18ication89 having the digits as 1889 so you need to print that as output.

#include<stdio.h>

int main()

{

char st[100];

int i;

printf("Enter String : ");

scanf("%s",st);

for(i=0;st[i]!='\0';i++)

{

if(st[i]>='0'&&st[i]<='9')

printf("%c",st[i]);

}

}

Problem 2:

Input Output

Application 5

testing 2

Description :-Given string is lower case string, You need to find the vowels count

#include<stdio.h>

int main()

{

char st[100];

int I,vowels=0;

printf(“Enter a String : “);

scanf(“%s”,st);

for(i=0;st[i]!=’\0’;i++)

{

if(st[i]==’a’||st[i]==’e’||st[i]==’i’||st[i]==’o’||st[i]==’u’);

vowels++;

}

printf(“%d”,vowels);

}

1. he program must accept an integer N as the input. The program must print the Fibonacci series in the reverse order as the output.

Input Output

--------------------------------------------------------------------------------------------

5 3 2 2 1 0

12 89 55 34 21 13 8 5 3 2 1 1 0

#include<stdio.h>

int main()

{

int i,n,k=2,l1=0,l2=1,l3;

int ar[100];

ar[0]=0;

ar[1]=1;

printf(“Enter No. of elements in series : “);

scanf("%d",&n);

for(i=2;i<n;i++)

{

l3=l1+l2;

ar[k]=l3;

l1=l2;

l2=l3;

k++;

}

for(i=k-1;i>=0;i--)

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

}

8. The program must accept an integer N as the input. The program must print count of prime numbers

Input Output

10,30 6- [11,13,17,19,23,29]

10,100 21- [11,13,17,19,23,29 ….]

#include<stdio.h>

#include<math.h>

int prime(int num)

{

int i,flag=1;

for(i=2;i<=sqrt(num);i++)

{

if(num%i==0)

{

flag=0;

break;

}

}

if(flag)

return 1;

else

return 0;

}

int main()

{

int i,l1,l2,count=0;

printf(“Enter start and end values : “);

scanf("%d %d",&l1,&l2);

for(i=l1;i<=l2;i++)

{

if(prime(i))

count++;

}

printf("%d",count);

}

Part – B

**1.** Write a C program to implement STACK to perform the PUSH, POP and DISPLAY operations. [Implement the 10 size]

#define MAX\_SIZE 10

#include<stdio.h>

int stack[MAX\_SIZE];

int top=-1;

void push(int);

void pop();

void display();

int main()

{

push(10);

push(20);

push(30);

push(40);

printf("\nStack after pushing elements\n");

display();

pop();

pop();

printf("\nStack after removing elements\n");

display();

}

void push(int num)

{

if(top==MAX\_SIZE-1)

{

printf("\nStack is full\n");

return;

}

printf("\nPushing element : %d\n",num);

top++;

stack[top]=num;

}

void pop()

{

int item;

if(top<0)

{

printf("\nStack is empty\n");

return;

}

item=stack[top];

printf("\nItem popped : %d\n",item);

top--;

}

void display()

{

int i;

for(i=top;i>=0;i--)

{

printf("%d\n",stack[i]);

}

}

1. **2.** Write a C program to implement ordinary QUEUE to perform the insertion, deletion and display operations. [Operations with Array size of 12].
2. #include<stdio.h>
3. #include<stdlib.h>
4. #define MAX\_SIZE 12
5. void enqueue();
6. void dequeue();
7. void display();
8. int front=-1,rear=-1;
9. int queue[MAX\_SIZE];
10. int main()
11. {
12. int choice;
13. while(choice!=4)
14. {
15. printf("\n1. Add item to Queue");
16. printf("\n2. Remove element from Queue");
17. printf("\n3. Display Queue");
18. printf("\n4. Exit");
19. printf("\nEnter Choice between [1-4] : ");
20. scanf("%d",&choice);
22. switch(choice)
23. {
24. case 1:
25. enqueue();
26. break;
27. case 2:
28. dequeue();
29. break;
30. case 3:
31. display();
32. break;
33. case 4:
34. exit(0);
35. default:
36. printf("\nInvalid Choice..");
37. }
38. }
39. }
40. void enqueue()
41. {
42. int item;
43. if(rear==MAX\_SIZE-1)
44. {
45. printf("\nQueue Overflow..");
46. return;
47. }
48. printf("Enter the item");
49. scanf("%d",&item);
50. if(front=-1 && rear==-1)
51. {
52. front=0;
53. rear=0;
54. }
55. else
56. {
57. rear=rear+1;
58. }
59. queue[rear]=item;
60. printf("\nValue inserted..");
61. }
62. void dequeue()
63. {
64. int item;
65. if(front==-1 || front>rear)
66. {
67. printf("\nQueue Underflow");
68. return;
69. }
70. else
71. {
72. item=queue[front];
73. if(front==rear)
74. {
75. front=-1;
76. rear=-1;
77. }
78. else
79. {
80. front=front+1;
81. }
82. printf("\nItem Deleted");
83. }
84. }
85. void display()
86. {
87. int i;
88. if(rear==-1)
89. {
90. printf("\nQueue Empty");
91. }
92. else
93. {
94. for(i=front;i<=rear;i++)
95. {
96. printf("%d\t",queue[i]);
97. }
98. }
99. }

3.Your Program need to accept the alphanumeric string and you have print the output in the following manner Hebeon Tech -- V: 4 C: 6 W: 1

#include<stdio.h>

#include<string.h>

int main()

{

char st[100];

int i,vowels=0,cons=0,words=0;

printf(“Enter a String : “);

scanf(“%[^\n]s”,st);

strlwr(st);

for(i=0;st[i]!=’\0’;i++)

{

if(st[i]==’ ‘)

words++;

else

if(st[i]==’a’||st[i]==’e’||st[i]==’i’||st[i]==’o’||st[i]==’u’)

vowels++;

else

cons++;

}

printf(“ V: %d C: %d W: %d”,vowels,cons,words);

}

1. Example 1

Input Output

mango tes ae

ns

g\*

o\*

run working uo

nr

\*k

\*i

\*n

\*g

#include<stdio.h>

#include<string.h>

int main()

{

char st1[100],st2[100];

scanf("%s %s",st1,st2);

int l1,l2,i,len;

l1=strlen(st1);

l2=strlen(st2);

if(l1>l2)

len=l1;

else

len=l2;

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

{

if(st1[i]!='\0')

printf("%c",st1[i]);

else

printf("\*");

if(st2[i]!='\0')

printf("%c\n",st2[i]);

else

printf("\*\n");

}

}

Example-2

Input Output

1. Application Target: 4 Applicanoit
2. Explanation :-You need reverse the k characters in the reverse order from the right side of the given array. For the given test last four characters are tion when they reversed noit. So you need print those characters in reverse order and first characters will be same.
3. #include<stdio.h>
4. #include<string.h>
5. int main()
6. {
7. char str[100];
8. int i,target,pos;
9. printf("Enter string : ");
10. scanf("%s",str);
11. printf("Enter the targer position");
12. scanf("%d",&target);
13. pos=strlen(str)-target;
14. for(i=0;i<pos;i++)
15. {
16. printf("%c",str[i]);
17. }
18. for(i=strlen(str)-1;i>=pos;i--)
19. {
20. printf("%c",str[i]);
21. }
22. }

4. Mr Jack has created a rectangle box with some rows(r) and columns(c). He has placed different numbers on the rectangle box in each cell. Now Jack wants to find out all the numbers that are not placed in the edges and further Jack wants to add those numbers to get a single result as output i.e. Jack wants the numbers that have a number above, a number below to it, the number on the left and a number on the right.

Input Output

18 5 5 21

23 24 1 25 45

8 5 15 17

23 4 29 2

Explanation :-The elements which are not present along the border are 24 1 5 15.

Hence the output is 24+1+5+15 = 45.

#include<stdio.h>

int main()

{

int i,j,row,col;

int ar[100][100];

scanf("%d %d",&row,&col);

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

for(j=0;j<col;j++)

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

int sum=0;

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

for(j=0;j<col;j++)

{

if(!(i==0 || i==row-1 || j==0 || j==col-1)){

sum+=ar[i][j];

}

}

printf("%d",sum);

}

Problem 1:

Input Output

1 2 3   
4 5 6 15  
7 8 9

1. Description :-You need to identify the diagonal elements from the given multi-dimensional array and print the sum of them. For the given test you need add the diagonal elements 1 + 5 + 9 -- 15.

#include<stdio.h>

int main()

{

int i,j,row,col;

int ar[100][100];

scanf("%d %d",&row,&col);

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

for(j=0;j<col;j++)

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

int sum=0;

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

{

sum+=ar[i][i];

}

printf("\n%d",sum);

}

Problem 2:

Input Output

1 2 3   
41 5 6 3 41 87   
7 87 9

1. Description:-You need to identify the large number from each row in the given input. For the given test case in the first row the large number is 3, second row large number is 41 and third row the large number is 87 so that output will be 3 41 87.

#include<stdio.h>

int main()

{

int max,i,j,row,col;

int ar[100][100];

printf(“Enter dimensions for array : “);

scanf("%d %d",&row,&col);

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

{

for(j=0;j<col;j++)

{

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

}

}

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

{

max=ar[i][0];

for(j=0;j<col;j++)

{

if(max<ar[i][j])

max=ar[i][j];

}

printf("%d ",max);

}

}

5. Write a C++ program to compute the area of circle, rectangle and triangle (given with 3 sides) by overloading the area ( ) function.

#include<iostream>

using namespace std;

float area(int r)

{

float a=3.14\*r\*r;

return a;

}

int area(int l,int b)

{

int a=l\*b;

return a;

}

float area(float b,float h)

{

float a=0.5\*b\*h;

return a;

}

int main()

{

int r,l,b;

float base,h;

cout<<”Enter value for radius : “;

cin>>r;

cout<<”Enter value for length & breadth : “;

cin>>l>>b;

cput<<”Enter value for base and height of triangle : “l

cin>>base>>h;

cout<<"Area of circle : "<<area(r);

cout<<"\nArea of rectangle : "<<area(l,b);

cout<<"\nArea of triangle : "<<area(base,h);

return 0;

}

5.2) Write a C++ program to add i) two integer numbers ii) two float numbers iii) One integer and one float numbers by using function overloading concept.

#include<iostream>

using namespace std;

int add(int l,int b)

{

return l+b;

}

float add(float b,float h)

{

return b+h;

}

float add(float b,int h)

{

return b+h;

}

int main()

{

int a1,a2;

float b,a;

cout<<”Enter 2 Integers : “;

cin>>a1>>a2;

cout<<”Enter 2 float values : “;

cin>>a>>b;

cout<<"Addition of integers : "<<add(a1,a2);

cout<<"\nAddition of floats : "<<add(a,b);

cout<<"\nAddition of the combination is : "<<add(a,a1);

return 0;

}

6.The program must accept a string S as the input. The program must toggle the case of vowels in the string S. Then the program must print the modified string as the output.

Input Output

EquilIbriUm eqUIlibrIum

#include<stdio.h>

#include<stdlib.h>

int main()

{

char st[100];

int i,count=0;

scanf("%s",st);

for(i=0;st[i];i++)

{

if(st[i]=='a'||st[i]=='e'||st[i]=='o'||st[i]=='u'||st[i]=='i'||st[i]=='A'||st[i]=='E'||st[i]=='O'|| st[i]=='U'||st[i]=='I')

{

if(st[i]>=65 && st[i]<91)

st[i]+=32;

else if(st[i]>=97 && st[i]<122)

st[i]-=32}

}

printf("%s",st);

}

Problem 1:

Input Output

orange puboif

working apuojoi

Description :-You need to print the next vowel in the alphabet list if the current character is consonant and you need to print the consonant for the vowel in the alphabet list.

#include<stdio.h>

int main()

{

char st[100];

int i;

printf(“Enter a String : “);

scanf("%s",st);

for(i=0;st[i];i++)

{

if(st[i]=='a'||st[i]=='e'||st[i]=='o'||st[i]=='u'||st[i]=='i')

st[i]+=1;

else

{

if(st[i]>'a' && st[i]<'e')

st[i]='e';

else if(st[i]>'e' && st[i]<'i')

st[i]='i';

else if(st[i]>'i' && st[i]<'o')

st[i]='o';

else if(st[i]>'o' && st[i]<'u')

st[i]='u';

else if(st[i]>'u')

st[i]='a';

}

}

printf("%s",st);

}

7.Write a C program to print the following pattern

1. 1
2. 2 3
3. 4 5 6
4. 7 8 9 10
5. 11 12 13 14 15

#include<stdio.h>

int main()

{

int n,k=1;

scanf("%d",&n);

int i,j;

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

{

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

{

printf("%d ",k++);

}

printf("\n");

}

}

**Alphabetic Pattern**

1. A
2. B C
3. D E F
4. G H I J
5. K L M N O

#include<stdio.h>

int main()

{

int n;

char k='A';

scanf("%d",&n);

int i,j;

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

{

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

printf("%c ",k++);

printf("\n");

}

}