SEMESTER:-01

NAME: Cdt. Akash.Kalidas.Durane

EXERCISE :- 01

# Set A :-

Q1] input:-

#define pi 3.142

#include<stdio.h>

int main() {

int radius,height;

float volume,surface\_area;

printf("enter the radiud:\n");

scanf("%d",&radius);

printf("enter the height:\n");

scanf("%d",&height);

volume=pi\*radius\*radius\*height;

surface\_area=2\*pi\*radius\*height+2\*pi\*radius\*radius;

printf("volume of cylinder is=%f\n",volume);

printf("surface area of cylinder is %f\n",surface\_area);

return 0;

}

Output:-

enter the radiud:

3

enter the height:

6

volume of cylinder is=169.667999

surface area of cylinder is 169.667999

Q2] input:-

#define constant 273.15

#define constant2 32

#include<stdio.h>

int main() {

float celsius,fahrenheit,kelvin;

printf("enter the temperature in fahrenheit:\n");

scanf("%f",&fahrenheit);

celsius=(fahrenheit-constant2)\*5/9;

kelvin=celsius+constant;

printf("temperature in celsius=%f\n",celsius);

printf("temperature in kelvin=%f\n",kelvin);

}

Output:-

enter the temperature in fahrenheit:

9

temperature in celsius=-12.777778

temperature in kelvin=260.372223

Q3] input:-

#include<stdio.h>

int main() {

float velocity,initial\_velocity,acceleration,time,distance\_travelled;

printf("enter the initial\_velovity=");

scanf("%f",&initial\_velocity);

printf("enter thr acceleration=");

scanf("%f",&acceleration);

printf("enter the time=");

scanf("%f",&time);

velocity=initial\_velocity+acceleration\*time;

distance\_travelled=initial\_velocity\*time+0.5\*acceleration\*time\*time;

printf("velocity=%f",velocity);

printf("\ndistance\_traveled=%f",distance\_travelled);

return 0;

}

Output:-

enter the initial\_velovity=3

enter thr acceleration=6

enter the time=9

velocity=57.000000

distance\_traveled=270.000000

Q4] input:-

#define pi 3.142

#include<stdio.h>

#include<math.h>

int main() {

float inner\_r,outer\_r,perimeter,area;

printf("enter the inner radius:");

scanf("%f",&inner\_r);

printf("enter the outer radius:");

scanf("%f",&outer\_r);

perimeter=2\*pi\*(outer\_r+inner\_r);

area=(pow(outer\_r,2)-pow(inner\_r,2))\*pi;

printf("perimeter is:%f",perimeter);

printf("\narea is:%f",area);

return 0;

}

Output:-

enter the inner radius:3

enter the outer radius:6

perimeter is:56.556000

area is:84.834000

Q5] input:- #include<stdio.h>

int main() {

float first\_number,second\_number,AM,HM;

printf("1st\_number:");

scanf("%f",&first\_number);

printf("2nd\_number:");

scanf("%f",&second\_number);

AM=(first\_number+second\_number)/2;

HM=first\_number\*second\_number/(first\_number+second\_number);

printf("AM is:%f",AM);

printf("\nHM is:%f",HM);

return 0;

}

Output:-

1st\_number:3

2nd\_number:6

AM is:4.500000

HM is:2.000000

Q6] input:-

#include<stdio.h>

int main() {

float l,b,h,surface\_area,volume;

printf("enter the length:");

scanf("%f",&l);

printf("enter the breath:");

scanf("%f",&b);

printf("enter the height:");

scanf("%f",&h);

surface\_area=2\*(l\*b+b\*h+h\*l);

volume=l\*b\*h;

printf("surface\_area=%f",surface\_area);

printf("\nvolume=%f",volume);

return 0;

}

Output:-

enter the length:3

enter the breath:6

enter the height:9

surface\_area=198.000000

volume=162.000000

Q7] input:-

#include<stdio.h>

int main() {

char ch,previous,next;

printf("enter the character:");

scanf("%c",&ch);

previous=ch-1;

next=ch+1;

printf("the previous character is: %c",previous);

printf("\nthe next character is: %c",next);

return 0;

}

Input:-

enter the character:b

the previous character is: a

the next character is: c

Q8] input:-

#include<stdio.h>

int main() {

char ch;

printf("enter the character:");

scanf("%c",&ch);

printf("ascii value of %c is %d",ch,ch);

return 0;

}

output:-

enter the character:a

ascii value of a is 97

# Set B:-

Q1] input:-

#include<stdio.h>

#include<math.h>

int main() {

float x1,x2,y1,y2,distance;

printf("enter the 1st point coordinates:");

scanf("%f,%f",&x1,&y1);

printf("enter the second point coordinates:");

scanf("%f,%f",&x2,&y2);

distance=sqrt(pow(x2-x1,2)+pow(y2-y1,2));

printf("distance between the two points:%f",distance);

return 0;

}

Output:-

enter the 1st point coordinates:5,7

enter the second point coordinates:1,4

distance between the two points:5.000000

Q2] input :-

#include<stdio.h>

int main() {

int first\_no,second\_no,temp;

printf("enter the first number:");

scanf("%d",&first\_no);

printf("enter the second number:");

scanf("%d",&second\_no);

temp=first\_no;

first\_no=second\_no;

second\_no=temp;

printf("first number interinterchanged=%d",first\_no);

printf("\nsecond number interinterchanged=%d",second\_no);

return 0;

}

Output:-

enter the first number:3

enter the second number:6

first number interinterchanged=6

second number interinterchanged=3

Q3] input:-

#include<stdio.h>

int main() {

int ten,one,five,amount,remainder;

printf("enter the amount:");

scanf("%d",&amount);

ten=amount/10;

remainder=amount%10;

five=remainder/5;

one=remainder%5;

printf("ten=%d\nfive=%d\none=%d",ten,five,one);

return 0;

}

Output:-

enter the amount:29

ten=2

five=1

one=4

EXERCISE :- 02

# Set A:-

Q1] input:-

#include<stdio.h>

int main() {

int number;

printf("enter the number:");

scanf("%d",&number);

if(number%2==0) {

printf("the number is even");

}

else {

printf("the number is odd");

}

return 0;

}

Output:-

enter the number:6

the number is even

enter the number:3

the number is odd

Q2] input:-

#include<stdio.h>

int main() {

int a,b,c;

printf("enter the first number:");

scanf("%d",&a);

printf("enter the second number:");

scanf("%d",&b);

printf("enter the third number:");

scanf("%d",&c);

if(a>b && a<c) {

printf("%d is between %d and %d",a,b,c);

}

else {

printf("%d is not between %d and %d",a,b,c);

}

return 0;

}

Output:-

enter the first number:20

enter the second number:10

enter the third number:30

20 is between 10 and 30

enter the first number:20

enter the second number:30

enter the third number:10

20 is not between 30 and 10

Q3] input:-

#include<stdio.h>

int main() {

char ch;

printf("enter the input:");

scanf("%c",&ch);

if(ch>='0' && ch<='9') {

printf("%c is digit",ch); }

else {

printf("it is a character");

}

return 0;

}

2Input:-

#include<stdio.h>

int main() {

char ch;

printf("enter the character:");

scanf("%c",&ch);

if(ch>='a' && ch<='z' || ch>='A' && ch<='Z') {

printf("%c the character is alphabet",ch);

}

if(ch>='0' && ch<='9')

{

printf("%c the character is digit",ch);

}

return 0;

}

Output:-

enter the input:1

1 is digit

enter the input:a

it is a character

output2:-

enter the character:u

u the character is alphabet

enter the character:0

0 the character is digit

Q4] input:-

#include<stdio.h>

int main() {

int number;

printf("enter the number:");

scanf("%d",&number);

if(number%5==0) {

printf("%d is divisible by 5",number);

if (number%5==0 && number%7==0) {

printf("\n%d number is divisible by 5 & 7",number); }

}

else if (number%7==0) {

printf("%d is divisible by 7",number);

}

else {

printf("invalid input or the number is not divisible by either 5 or 7");

}

}

Output:-

enter the number:20

20 is divisible by 5

enter the number:14

14 is divisible by 7

enter the number:35

35 is divisible by 5

35 number is divisible by 5 & 7

enter the number:2

invalid input or the number is not divisible by either 5 or 7

enter the number:b

invalid input or the number is not divisible by either 5 or 7

Q5] input:-

#include<stdio.h>

int main() {

float salary,tax;

printf("enter the salary:");

scanf("%f",&salary);

if(salary<=150000) {

printf("tax is 0 final amount is%f",salary);

}

else if(salary>150000 && salary<300000) {

tax=salary\*0.2;

printf("tax is %f final amount is %f",tax,salary-tax);

}

else if(salary>300000) {

tax=salary\*0.3;

printf("tax is %f final amount is %f",tax,salary-tax);

}

return 0;

}

Output:-

enter the salary:150000

tax is 0 final amount is150000.000000

enter the salary:150002

tax is 30000.400391 final amount is 120001.601562

enter the salary:300005

tax is 90001.500000 final amount is 210003.500000

Q6] input:-

#include<stdio.h>

int main() {

char ch;

printf("enter the character:");

scanf("%c",&ch);

if(ch=='a' || ch== 'e' || ch=='i' || ch=='o' || ch=='u') {

printf("%c is vowel in lower case",ch);

}

else if (ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U')

printf("the character is vowel in upper case");

else {

printf("the character is consonant");

}

return 0;

}

Output:-

enter the character:A

the character is vowel in upper case

enter the character:a

a is vowel in lower case

enter the character:d

the character is consonant

Q7] input:-

#include<stdio.h>

int main() {

int year;

printf("enter the year:");

scanf("%d",&year);

if(year%4==0 && year%100!=0 || year%400==0) {

printf("%d is a leap year",year);

}

else {

printf("it is not a leap year");

}

return 0;

}

Output:-

enter the year:240

240 is a leap year

enter the year:101

it is not a leap year

Q8] input:-

#include<stdio.h>

int main() {

int digit;

printf("enter the digit:");

scanf("%d",&digit);

switch(digit) {

case 0:printf("ZERO\n");

break;

case 1:printf("ONE\n");

break;

case 2:printf("TWO\n");

break;

case 3:printf("three\n");

break;

case 4:printf("four\n");

break;

case 5:printf("five\n");

break;

case 6:printf("six\n");

break;

case 7:printf("seven\n");

break;

case 8:printf("eight\n");

break;

case 9:printf("nine\n");

break;

default:printf("invalid digit");

} return 0;

}

Output:-

enter the digit:8

eight

enter the digit:74

invalid digit

Q9] input:-

#include<stdio.h>

int main() {

char operator;

printf("enter the operator:");

scanf("%c",&operator);

int first\_number,second\_number,num1,num2,num3,num4;

printf("enter the first number:");

scanf("%d",&first\_number);

printf("enter the second number:");

scanf("%d",&second\_number);

switch(operator) {

case '+':num1=first\_number+second\_number;

printf("sum=%d",num1);

break;

case '-':num2=first\_number-second\_number;

printf("subraction=%d",num2);

break;

case '\*':num3=first\_number\*second\_number;

printf("multiplication=%d",num3);

break;

case '/':num4=first\_number/second\_number;

printf("division=%d",num4);

break;

default:printf("invalid");

} return 0;

}

Output:-

enter the operator:+

enter the first number:3

enter the second number:6

sum=9

enter the operator:-

enter the first number:3

enter the second number:6

subraction=-3

enter the operator:\*

enter the first number:6

enter the second number:9

multiplication=54

enter the operator:/

enter the first number:6

enter the second number:3

division=2

enter the operator:&

enter the first number:2

enter the second number:4

invalid

Q10] input:-

#include<stdio.h>

int main() {

int operator,a,b,c,x,y,z;

printf("enter the operator:");

scanf("%d",&operator);

printf("enter the first number:");

scanf("%d",&x);

printf("\nenter the second number:");

scanf("%d",&y);

switch(operator) {

case 1:if(x==y)

printf("%d is equal to %d",x,y);

else

printf( "%d is not equal to %d",x,y);

break;

case 2:if(x<y)

printf("x is less than y");

else

printf("x is not less than y");

break;

case 3:a=x/y;

b=x%y;

printf("the quotient is %d and the remainder is %d",a,b);

break;

case 4:printf("enter a number:");

scanf("%d",&z);

if(z>=x && z<=y)

printf("%d lies between %d and %d",z,x,y);

else

printf("it does not lie between %d and %d",x,y);

break;

case 5:c=x;

x=y;

y=c;

printf("the swapped numbers are %d and %d",x,y);

break;

default:printf("invalid");

} return 0;

}

Output:-

enter the operator:1

enter the first number:3

enter the second number:4

3 is not equal to 4

enter the operator:2

enter the first number:3

enter the second number:6

x is less than y

enter the operator:3

enter the first number:6

enter the second number:3

the quotient is 2 and the remainder is 0

enter the operator:4

enter the first number:10

enter the second number:30

enter a number:20

20 lies between 10 and 30

enter the operator:5

enter the first number:3

enter the second number:6

the swapped numbers are 6 and 3

enter the operator:8

enter the first number:3

enter the second number:4

invalid

# Set B:-

Q1] input:-

#include<stdio.h>

int main() {

char ch;

printf("enter:");

scanf("%c",&ch);

if(ch>='A' && ch<='Z')

printf("%c the character is uppercase",ch);

else if(ch>='a' && ch<='z')

printf("%c the character is lowercase",ch);

else if(ch>=0 && ch<=112) {

printf("%c the character is digit",ch);

}

return 0;

}

Output:-

Enter:A

A the character is uppercase

Enter:a

a the character is lowercase

enter:6

6 the character is digit

Q2] input:-

#include<stdio.h>

int main() {

int x,y;

printf("enter the x coordinate:");

scanf("%d",&x);

printf("enter the y coordinate:");

scanf("%d",&y);

if(x>0 && y>0) {

printf("the point lies in first quadrant");

}

else if(x<0 && y>0) {

printf("the point lies in second quadrant");

}

else if (x<0 && y<0) {

printf("the point lies in third quadrant");

}

else if(x>0 && y<0) {

printf("the point lies in fourth quadrant");

}

Return 0;

}

Output:-

enter the x coordinate:3

enter the y coordinate:6

the point lies in first quadrant

enter the x coordinate:-3

enter the y coordinate:6

the point lies in second quadrant

enter the x coordinate:-3

enter the y coordinate:-6

the point lies in third quadrant

enter the x coordinate:3

enter the y coordinate:-6

the point lies in fourth quadrant

Q3] Input:-

#include<stdio.h>

#include<math.h>

int main() {

float x1,x2,a,b,c,d;

printf( "enter the value of a:");

scanf( "%f",&a);

printf("enter the value of b:");

scanf("%f",&b);

printf("enter the value of c:");

scanf(" %f",&c);

d=(b\*b)-(4\*a\*c);

printf("the discriminant is %f",d);

if(d>0) {

x1=(-b+sqrt(d))/(2\*a);

x2=(-b-sqrt(d))/(2\*a);

printf("\nthe roots are real and distinct\n and the roots are %f and %f",x1,x2);

}

else if(d==0) {

x1=x2=(-b)/(2\*a);

printf("\nthe roots are real and equal\n and the roots are %f and %f",x1,x2);

}

else if(d<0) {

printf("\nthe roots are imaginary");

}

return 0;

}

Output:-

enter the value of a:3

enter the value of b:-18

enter the value of c:1

the discriminant is 312.000000

the roots are real and distinct

and the roots are 5.943920 and 0.056080

enter the value of a:3

enter the value of b:-18

enter the value of c:27

the discriminant is 0.000000

the roots are real and equal

and the roots are 3.000000 and 3.000000

enter the value of a:3

enter the value of b:6

enter the value of c:9

the discriminant is -72.000000

the roots are imaginary

Q4] Input:-

#include<stdio.h>

int main() {

float cost\_price,selling\_price,profit\_or\_loss;

printf("enter the cost price:");

scanf("%f",&cost\_price);

printf("enter the selling price:");

scanf("%f",&selling\_price);

profit\_or\_loss=selling\_price-cost\_price;

if(profit\_or\_loss>0) {

printf("the profit is %f",profit\_or\_loss);

}

else if(profit\_or\_loss<0) {

printf("the loss is %f",profit\_or\_loss);

}

else if(profit\_or\_loss==0) {

printf("the profit is zero");

}

return 0;

}

Output:-

enter the cost price:369

enter the selling price:400

the profit is 31.000000

enter the cost price:400

enter the selling price:369

the loss is -31.000000

enter the cost price:369

enter the selling price:369

the profit is zero

Q5] Input:-

#include<stdio.h>

int main() {

float sub1,sub2,sub3,total,average;

char percentage;

printf("enter the marks of subject1:");

scanf("%f",&sub1);

printf("enter the marks of subject2:");

scanf( "%f",&sub2);

printf("enter the marks of subject3:");

scanf("%f",&sub3);

total=sub1+sub2+sub3;

average=total/3;

percentage='%';

if(average>=75) {

printf("the student is passed with distinction:%f %c",average,percentage);

}

else if(average>=60 && average<75) {

printf("the student is passed with class 1:%f %c",average,percentage);

}

else if(average>=50 && average<60) {

printf("the student is passed with class 2:%f %c",average,percentage);

}

return 0;

}

Output:-

enter the marks of subject1:99

enter the marks of subject2:100

enter the marks of subject3:80

the student is passed with distinction:93.000000 %

enter the marks of subject1:30

enter the marks of subject2:60

enter the marks of subject3:70

the student is passed with class 2:53.333332 %

Q6] Input:-

#include<stdio.h>

#define pi 3.142

int main() {

int num;

float r;

printf("1.to print area of circle:");

printf("\n2.to print circumfurance of circle");

printf("\n3.to print volume of sphere:");

printf("\nenter the radius:");

scanf("%f",&r);

printf("enter from the menu:");

scanf("%d",&num);

switch(num)

{

case 1:

printf("the area of circle is %f",pi\*r\*r);

break;

case 2:

printf("the circumfurance of circle is %f",2\*pi\*r);

break;

case 3:

printf("the volume of sphere is %f",(4.0/3.0)\*pi\*r\*r\*r);

break;

default:

printf("invalid menu");

}

return 0;

}

Output:-

1.to print area of circle:

2.to print circumfurance of circle

3.to print volume of sphere:

enter the radius:3.6

enter from the menu:1

the area of circle is 40.720318

1.to print area of circle:

2.to print circumfurance of circle

3.to print volume of sphere:

enter the radius:8

enter from the menu:14

invalid menu

Q7] Input:-

#include<stdio.h>

#define half 0.5

int main() {

int num;

float l,b,h,area,base;

printf("1.to print area of square:");

printf("\n2.to print area of rectangle:");

printf("\n3.to print area of triangle:");

printf("\nenter from the menu:");

scanf("%d",&num);

switch(num) {

case 1:

printf("enter the length of the side:");

scanf("%f",&l);

area=l\*l;

printf("the area of square is %f",area);

break;

case 2:

printf("enter the length and breadth of the rectangle:");

scanf("%f,%f",&l,&b);

area=l\*b;

printf("the area of rectangle is %f",area);

break;

case 3:

printf("enter the height of triangle:");

scanf("%f",&h);

printf("enter the base of triangle:");

scanf("%f",&base);

area=half\*base\*h;

printf("the area of triangle is %f",area);

break;

default:

printf("\nplease check the menu again");

}

return 0;

}

Output:-

1.to print area of square:

2.to print area of rectangle:

3.to print area of triangle:

enter from the menu:3

enter the height of triangle:6

enter the base of triangle:9

the area of triangle is 27.000000

1.to print area of square:

2.to print area of rectangle:

3.to print area of triangle:

enter from the menu:2

enter the length and breadth of the rectangle:4,8

the area of rectangle is 32.000000

1.to print area of square:

2.to print area of rectangle:

3.to print area of triangle:

enter from the menu:1

enter the length of the side:3

the area of square is 9.000000

1.to print area of square:

2.to print area of rectangle:

3.to print area of triangle:

enter from the menu:tf

please check the menu again

EXERCISE :- 03

# Set A:-

Q1] Input:-

#include<stdio.h>

int main() {

int n,i;

printf("enter the last number:");

scanf("%d",&n);

for(int i=0;i<n;i=i+2) {

printf("the even numbers are %d\n",i);

}

return 0;

}

Output:-

enter the last number:10

the even numbers are 0

the even numbers are 2

the even numbers are 4

the even numbers are 6

the even numbers are 8

Q2] Input:-

#include <stdio.h>

int main() {

int x, y;

int sum = 0;

// Prompt the user for input

printf("Enter the value of x: ");

scanf("%d", &x);

printf("Enter the value of y: ");

scanf("%d", &y);

// Ensure that x is less than or equal to y

if (x > y) {

printf("x should be less than or equal to y.\n");

} else {

// Calculate the sum using a for loop

for (int i = x; i <= y; i++) {

sum =sum + i;

}

// Print the sum

printf("The sum of integers between %d and %d is: %d\n", x, y, sum);

}

return 0;

}

Output:-

Enter the value of x: 1

Enter the value of y: 4

The sum of integers between 1 and 4 is: 10

Enter the value of x: 4

Enter the value of y: 1

x should be less than or equal to y

Q3] Input:-

#include<stdio.h>

#include<math.h>

int main() {

int x,n;

int power;

printf("enter the value of x:");

scanf("%d",&x);

printf("enter the power value:");

scanf("%d",&n);

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

power=pow(x,i);

}

printf("the value of x raised to the power n is %d",power);

return 0;

}

Output:-

enter the value of x:2

enter the power value:5

the value of x raised to the power n is 32

#### different method :-

Input:-

#include<stdio.h>

#include<math.h>

int main() {

int x,n;

int power;

printf("enter the value of x:");

scanf("%d",&x);

printf("enter the power value:");

scanf("%d",&n);

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

power=pow(x,i);

printf("the value of x raised to the power n is %d\n",power);

}

return 0;

}

Output:-

enter the value of x:2

enter the power value:5

the value of x raised to the power n is 4

the value of x raised to the power n is 8

the value of x raised to the power n is 16

the value of x raised to the power n is 32

Q4] Input:-

#include<stdio.h>

int main() {

int num;

char character;

printf("enter the character:");

scanf("%c",&character);

printf("enter the number:");

scanf("%d",&num);

if((character>='A'&&character<='Z') || character>='a'&&character<='z') {

printf("the next %d characters are:",num);

for(int i=0;i<=num;i++) {

printf("%c ",character+i);

}

}

else {

printf("please enter a valid character");

}

return 0;

}

Output:-

enter the character:A

enter the number:25

the next 25 characters are:A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Q5] Input:-

#include<stdio.h>

int main() {

int num,prime=1;

printf("enter the number:");

scanf("%d",&num);

if(num==0||num==1) {

prime=0;

}

for(int i=2;i<num;i++) {

if(num%i==0) {

prime=0;

break;

}

}

if(prime==0) {

printf("%d is not a prime number",num);

}

else {

printf("%d is a prime number",num);

}

return 0;

}

Output:-

enter the number:0

0 is not a prime number

enter the number:4

4 is not a prime number

enter the number:5

5 is a prime number

Q6] Input:-

#include<stdio.h>

int main() {

int num,count=0,sum=0,digit,n;

printf("enter the number:");

scanf("%d",&num);

n=num;

while(num!=0) {

digit=num%10;

sum=sum+digit;

num=num/10;

count++;

}

printf("the sum of the digits in %d is %d",n,sum);

printf("\nthe number of digits in %d is %d",n,count);

return 0;

}

Output:-

enter the number:123

the sum of the digits in 123 is 6

the number of digits in 123 is 3

Q7]Input:-

#include<stdio.h>

int main() {

int num,count=0,sum=0,digit,n,reverse=0;

printf("enter the number:");

scanf("%d",&num);

n=num;

while(num!=0) {

digit=num%10;

sum=sum+digit;

reverse=reverse\*10+digit;

num=num/10;

count++;

}

printf("the sum of the digits in %d is %d",n,sum);

printf("\nthe number of digits in %d is %d",n,count);

printf("\nthe reverse of %d is %d",n,reverse);

return 0;

}

Output:-

enter the number:123

the sum of the digits in 123 is 6

the number of digits in 123 is 3

the reverse of 123 is 321

Q8] Input:-

#include<stdio.h>

int main() {

int first\_number,last\_number,count,i,j;

printf("enter the first number:");

scanf("%d",&first\_number);

printf("enter the last number:");

scanf("%d",&last\_number);

printf("the prime numbers between %d and %d\n",first\_number,last\_number);

for(i=first\_number;i<=last\_number;i++) {

count=0;

for(j=1;j<=i;j++) {

if(i%j==0) {

count++;

}

}

if(count==2) {

printf("%d,",i);

}

}

return 0;

}

Output:-

enter the first number:1

enter the last number:100

the prime numbers between 1 and 100

2,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97,

Q9]Input:-

#include<stdio.h>

int main() {

int i,j,n=4;

char a=65;

printf("\nenter any number:");

scanf("%d",&n);

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

for(j=1;j<=i;j++) {

printf("%c\t",a);

a++;

}

printf("\n");

}

return 0;

}

Output:-

enter any number:11

A

B C

D E F

G H I J

K L M N O

P Q R S T U

V W X Y Z [ \

] ^ \_ ` a b c d

e f g h i j k l m

n o p q r s t u v w

x y z { | } ~ � � �

EXERCISE :- 04

## Set :- A

Q1] Input:-

#include<stdio.h>

#include<ctype.h>

int main() {

char ch;

printf("enter a character :");

scanf("%c",&ch);

if(isalpha(ch)) {

printf("\nit is a alphabet:%c",ch);

if (isupper(ch)) {

printf("\nit is a uppercase:%c",ch);

ch=tolower(ch);

printf("\nchanging case to lowercase:%c",ch);

}

else {

printf("\nit is in lowercase %c",ch);

ch=toupper(ch);

printf("\nchanging case to uppercase :%c",ch);

}

}

if(isdigit(ch)) {

printf("\nit is a digit:%c",ch);

}

else if (ispunct(ch)) {

printf("\nit is a punctuation:%c",ch);

}

return 0;

}

Output:-

enter a character :A

it is a alphabet:A

it is a uppercase:A

changing case to lowercase:a

enter a character :a

it is a alphabet:a

it is in lowercase a

changing case to uppercase :A

enter a character :}{

it is a punctuation:}

enter a character :5

it is a digit:5

Q2] Input:-

#include<stdio.h>

#include<math.h>

int main() {

int n;

double pr,n1,p,a,f,sqr,n3,n4;

do {

printf("\n1. Power");

printf("\n 2.Square Root");

printf("\n 3. Floor");

printf("\n 4. Ceiling");

printf("\n 5. Exit");

printf("\n enter your choice:");

scanf("%d",&n);

switch(n) {

case 1:

printf("enter the number & power:");

scanf("%lf %lf",&n1,&p);

printf("%lf",pow(n1,p));

break;

case 2:

printf("enter the number:");

scanf("%lf",&a);

sqr=sqrt(a);

printf("%lf",sqr);

break;

case 3:

printf("enter the number:");

scanf("%lf",&n3);

printf("%lf",floor(n3));

break;

case 4:

printf("enter the number:");

scanf("%lf",&n4);

printf("%lf",ceil(n4));

break;

}

}

while(n!=4);

return 0;

}

Output:-

1. Power

2.Square Root

3. Floor

4. Ceiling

5. Exit

enter your choice:1

enter the number & power:2 4

16.000000

1. Power

2.Square Root

3. Floor

4. Ceiling

5. Exit

enter your choice:2

enter the number:8

2.828427

1. Power

2.Square Root

3. Floor

4. Ceiling

5. Exit

enter your choice:3

enter the number:4

4.000000

1. Power

2.Square Root

3. Floor

4. Ceiling

5. Exit

enter your choice:4

enter the number:4.67

5.000000

EXERCISE:- 05

Set A:-

Q1] Input:-

#include<stdio.h>

int iseven(int num);

int main() {

int n,i,num,c=0;

printf("enter the number: ");

scanf("%d",&num);

printf("if number is true 1 else number is 0 false: %d\n",iseven(num));

printf("enter the nth number:");

scanf("%d",&n);

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

if(i%2==0) {

printf("even no: %d\n",i);

}

else {

printf("odd no: %d\n",i);

}

}

}

int iseven(int num) {

if(num%2==0) {

return 1;

}

else {

return 0;

}

}

Output:-

enter the number: 7

if number is true 1 else number is 0 false: 0

enter the nth number:5

odd no: 1

even no: 2

odd no: 3

even no: 4

odd no: 5

Q2] Input:-

#include<stdio.h>

int display(char ch,int n);

int main() {

int n;

char ch;

printf("enter the character:");

scanf("%c",&ch);

printf("enter the number:");

scanf("%d",&n);

display(ch,n);

return 0;

}

int display(char ch,int n) {

int i;

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

ch=ch + 1;

printf(" %c\t",ch);

}

}

Output:-

enter the character:A

enter the number:25

B C D E F G H I J K L M N O P Q R S T U V W X Y Z

*EXERCISE:- 06*

Set A:-

Q1] Input:-

#include<stdio.h>

int sum(int num);

int main() {

int num,sum\_num;

printf("enter the number:");

scanf("%d",&num);

sum\_num=sum(num);

printf("sum of digits of %d is %d",num,sum\_num);

return 0;

}

int sum(int num) {

if(num==0) {

return 0;

}

else {

return (num%10+sum(num/10));

}

}

Output:-

enter the number:123456789

sum of digits of 123456789 is 45

Q2] Input:-

#include<stdio.h>

#include<math.h>

unsigned int GCD(unsigned i, unsigned j);

int main(){

int a,b;

printf("Enter the two integers: ");

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

printf("GCD of %d and %d is %d",a,b,GCD(a,b));

return 0;

}

/\* Recursive Function\*/

unsigned int GCD(unsigned i, unsigned j){

if(j>i)

return GCD(j,i);

if(j==0)

return i;

else

return GCD(j,i%j);

}

Output:-

Enter the two integers: 4 2

GCD of 4 and 2 is 2

Q3] Input:-

#include <stdio.h>

int power (int, int);

int main()

{

int pow, num;

long result;

printf("Enter a number: ");

scanf("%d", &num);

printf("Enter it's power: ");

scanf("%d", &pow);

result = power(num, pow);

printf("%d^%d is %ld", num, pow, result);

return 0;

}

int power (int num, int pow)

{

if (pow)

{

return (num \* power(num, pow - 1));

}

return 1;

}

Output:-

Enter a number: 2

Enter it's power: 3

2^3 is 8