**ASSIGNMENT 10 SOLUTION**

**Ans 1.**

#include<stdio.h>

float area(int r)

{

return (22\*r\*r)/7;

}

int main()

{

int r;

float a;

printf("enter radius of the circle: ");

scanf("%d",&r);

a=area(r);

printf("area of the circle: %f\n",a);

return 0;

}

**Ans 2.**

#include<stdio.h>

float Simple\_int(float p, float r, float t) // function for finding simple interest

{

float si;

si = (p \* r \* t)/100; // formula

return si; // returning yhe value of si

}

int main()

{

float a,b,c;

float intrest;

printf("\nEnter Prinicpal :\t");

scanf("%f",&a);

printf("\nEnter year:\t");

scanf("%f",&b);

printf("\nEnter Rate:\t");

scanf("%f",&c); // taking all 3 values p,r and time

intrest = Simple\_int(a,b,c); // passing value in function

printf("\nSimple Interest = %.2f\n", intrest); //output

printf("\n");

return 0;

}

**Ans 3.**

#include <stdio.h>

/\*\*

\* Function to check even or odd

\* Returns 1 is num is even otherwise 0

\*/

int isEven(int num)

{

return !(num & 1);

}

int main()

{

int num;

/\* Input number from user \*/

printf("Enter any number: ");

scanf("%d", &num);

/\* If isEven() function returns 0 then the number is even \*/

if(isEven(num))

{

printf("The number is even.");

}

else

{

printf("The number is odd.");

}

return 0;

}

**Ans 4.**

#include <stdio.h>

void printNumber(int N);

int main(){

int N;

printf("Enter a number\n");

scanf("%d", &N);

printNumber(N);

return 0;

}

void printNumber(int N){

if(N >= 1){

printNumber(N-1);

printf("%d ", N);

}

}

**Ans 5.**

#include <stdio.h>

void printNumber(int N);

int main(){

int N;

printf("Enter a number\n");

scanf("%d", &N);

printNumber(N);

return 0;

}

void printNumber(int N){

if(N >= 1){

printNumber(N-1);

printf("%d ", 2\*N-1);

}

}

**Ans 6.**

#include <stdio.h>

int fact(int);

void main()

{

int no,factorial;

printf("Enter a number to calculate it's factorial\n");

scanf("%d",&no);

factorial=fact(no);

printf("Factorial of the num(%d) = %d\n",no,factorial);

//printf("Factorial of the num(%d) = %d\n",no,fact(no));//another way of calling a function//comment above two lines if you want to use this

}

int fact(int n)

{

int i,f=1;

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

{

f=f\*i;

}

return f;

}

**Ans 9.**

#include<stdio.h>

int main()

{

int n,num,digit,rem;

scanf("%d %d",&num,&digit);

n=num;

while(num!=0)

{

rem=num%10;

if(rem==digit)

{

printf("%d is occured in %d",digit,n);

return 0;

}

num/=10;

}

printf("%d is not occured in %d",digit,n);

return 0;

}

**Ans 10.**

// C Program to print all prime factors

#include <math.h>

#include <stdio.h>

// A function to print all prime factors of a given number n

void primeFactors(int n)

{

// Print the number of 2s that divide n

while (n % 2 == 0) {

printf("%d ", 2);

n = n / 2;

}

// n must be odd at this point. So we can skip

// one element (Note i = i +2)

for (int i = 3; i <= sqrt(n); i = i + 2) {

// While i divides n, print i and divide n

while (n % i == 0) {

printf("%d ", i);

n = n / i;

}

}

// This condition is to handle the case when n

// is a prime number greater than 2

if (n > 2)

printf("%d ", n);

}

/\* Driver program to test above function \*/

int main()

{

int n;

printf("Enter a number : ");

scanf("%d",&n);

primeFactors(n);

return 0;

}

**Ans 7.**

#include <stdio.h>

int fact(int);

void main()

{

int n,r,ncr;

printf("Enter a number n\n");

scanf("%d",&n);

printf("Enter a number r\n");

scanf("%d",&r);

ncr=fact(n)/(fact(r)\*fact(n-r));

printf("Value of %dC%d = %d\n",n,r,ncr);

}

int fact(int n)

{

int i,f=1;

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

{

f=f\*i;

}

return f;

}

**Ans 8.**

#include <stdio.h>

int fact(int);

void main()

{

int n,r,npr;

printf("Enter a number n\n");

scanf("%d",&n);

printf("Enter a number r\n");

scanf("%d",&r);

npr=(fact(n)/fact(n-r));

printf("Value of %dP%d = %d\n",n,r,npr);

}

int fact(int n)

{

int i,f=1;

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

{

f=f\*i;

}

return f;

}