Assignment – 10

Functions in C Language

1. Write a function to calculate the area of a circle. (TSRS) ?

Solve –

#include<stdio.h>

int f1( int c);

int main()

{

printf("the are of circle is %d\n",f1(3));

return 0;

}

int f1(int c){

int a;

a=3.14\*c\*c;

return a;

}

Output-

the are of circle is 28

2. Write a function to calculate simple interest. (TSRS) ?

Solve -

#include<stdio.h>

int f1( int p , int t ,int r);

int main()

{

printf(" simple interest %d\n",f1(100,10,1));

return 0;

}

int f1( int p , int r ,int t){

int si;

si = p\*r\*t/100;

return si;

}

Output -

simple interest 10

Write a function to check whether a given number is even or odd. Return 1 if the

number is even, otherwise return 0. (TSRS) ?

solve-

#include<stdio.h>

int f1( int a);

int main()

{

int n;

printf("Enter the number ");

scanf("%d\n",&n);

if(f1(n)>0){

printf("even");

}

else{

printf("odd");

}

return 0;

}

int f1( int n){

if(n%2==0){

return 1;

}

else

{

return 0;

}

}

Output –

Enter the number 5

odd

4. Write a function to print first N natural numbers (TSRN) ?

Solve -

#include<stdio.h>

void f1( int n);

int main()

{

f1(10);

return 0;

}

void f1( int n){

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

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

}

}

Output-

1

2

3

4

5

6

7

8

9

10

5. Write a function to print first N odd natural numbers. (TSRN) ?

Solve –

#include<stdio.h>

void f1( int n);

int main()

{

f1(10);

return 0;

}

void f1( int n){

int i;

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

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

}

}

Output-

1

3

5

7

9

11

13

15

17

19

6. Write a function to calculate the factorial of a number. (TSRS) ?

Solve -

#include<stdio.h>

int fact( int n);

int main()

{

int n;

printf("Enter the numbers");

scanf("%d\n",&n);

printf(" The factorial is %d\n",fact(n));

return 0;

}

int fact( int n){

int d=1;

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

d= d\*i;

}

return d;

}

Output-

Enter the numbers 5

The factorial is 120

7. Write a function to calculate the number of combinations one can make from n items

and r selected at a time. (TSRS) ?  
solve -

#include<stdio.h>

int fact( int n);

int fact2( int r);

int fact3( int s);

int main()

{

int n,r,s,t;

printf("Enter the number of n ");

scanf("%d\n",&n);

printf(" Enter the number of r");

scanf("%d\n",&r);

s= n-r;

t=fact(n)/fact(r)\*fact(s);

printf(" the combinations value is %d\n",t);

return 0;

}

int fact( int n){

int d=1;

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

d= d\*i;

}

return d;

}

int fact2( int r){

int d=1;

for( int i=1; i<=r; i++){

d=d\*i;

}

return d;

}

int fact3( int s){

int d=1;

for( int i=1; i<=s; i++){

d=d\*i;

}

return d;

}

8. Write a function to calculate the number of permulations one can make from n items

and r selected at a time. (TSRS) ?

solve –

#include<stdio.h>

int perm1( int n);

int perm2( int d);

int main()

{

int n,r,d;

printf(" enter the number of n ");

scanf("%d\n",&n);

printf(" enter the number of r");

scanf("%d\n",&r);

d=n-r;

printf("permulation value is %d\n",perm1(n)/perm2(d));

return 0;

}

int perm1( int n){

int t=1;

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

t=t\*i;

}

return t ;

}

int perm2( int d){

int s=1;

for( int i=1; i<=d; i++){

s=s\*i;

}

return s;

}

Output-

enter the number of n 6

enter the number of r 4

permulation value is 720

9. Write a function to check whether a given number contains a given digit or not.

(TSRS) ?

Solve -

#include<stdio.h>

int f1( int n);

int main(){

int n;

printf("enter the number ");

scanf("%d\n",&n);

if(f1(n)>0){

printf("digit");

}

else

{

printf(" not digit");

}

return 0;

}

int f1( int n){

if(n>99 && n<1000){

return 1;

}

else{

return 0;

}

}

Solve-

enter the number 123

123

Digit

10. Write a function to print all prime factors of a given number. For example, if the

number is 36 then your result should be 2, 2, 3, 3. (TSRN) ?

solve -

#include<stdio.h>

int prime( int x);

int main()

{

int x;

printf("Enter the number");

scanf("%d\n",&x);

prime(x);

return 0;

}

int prime( int x){

int i;

for( int i=2; x>1; i++){

while(x%i==0){

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

x=x/i;

}

}

}

output -

enter the numbers 36

2

2

3

3