Enroll - NBTG13715
Name - Nitin chaudhary
Batch - F8
Tut - 8

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Page

Q.1

Ans (i) Actual parameters are the parameters that appear in the function call. Formal parameters are the parameters that appears in function declarations.

(ii) The call by value method of passing arguments to a function copies the actual value of an argument into the formal parameter of the function. In this case, changes made to the parameters inside the function have no effect on the argument.

Ans (2)

```
#include <stdio.h>
int fact(int n)
{
    int f = n;
    while(n!=1)
    {
        n--;
        f = f * n;
    }
    return f;
}
int main()
{
    double s;
    for(int i=1; i<=5; i++)
    {
```

```
        s+= fact(i)/i;
        }
        printf("the summation of series till 5=%.1f",s);
        return 0;
    }
```

Output →
the summation of series till 5 = 34.000000

Ans (3) →
Value of 'n' inside function = 25
Modified value of x = 15

Ans (4) →

```
#include <stdio.h>
int find_factorial(int n)
{
  if (n==0)
      return(1);
  else
  return( n * find_factorial(n-1));
}
int main()
{
  int num, fact;
  printf("\n Enter number of pins: ");
  scanf("%d", &num);
  fact= find_factorial(num);
  printf(" \n possible ways to arrange %d pins are %d
                                    ", num, fact);
  return 0;
}
```

Ans(5)

```
#include <stdio.h>
int main()
{
    int a, r, ar[100], i=0;
    printf("enter a decimal number to get its binary\n");
    scanf("%d", &a);
    while(a>0)
    {
        r=a%2;
        ar[i]=r;
        a=a/2;
        i++;
    }
    i--;
    printf("binary conversion is \n");
    for(i; i>=0; i--)
    {
        printf("%d", ar[i]);
    }
}
```

Output →

enter a decimal number to get its binary
20
binary conversion is
10100

Ans 6:

```
#include <stdio.h>
void swap(int a, int b)
{
    int t;
    t = a;
    a = b;
    b = t;
    printf("\n The values of two numbers after
    swapping : a = %d , b = %d", a, b);
}
int main()
{
    int a, b;
    printf("Enter two numbers to swap: ");
    scanf("%d %d", &a, &b);
    printf("\n The values of two numbers before swap:
            a = %d, b = %d", a, b);
    swap(a, b);
    return 0;
```

Output →

Enter two numbers to swap: 4 7

The values of two numbers before swap: a = 4, b = 7
The values of two numbers after swapping: a = 7, b = 4

Ans (7)

```
#include <stdio.h>
int count (int n)
{ if (n==1)
   {
     return n;
   }
  else
   {
     return n + count (n-1);
   }
}
int main()
{
  int n;
  printf ("Enter the value of n \n");
  scanf ("%d", &n);
  int s=count (n);
  printf ("Sum of stars = %d ", s);
  return 0;
}
```

Ans (8) →

```
#include <stdio.h>
int armstrong (int n)
{
  int d, s=0, t=n;
  while (t!=0)
  {
    d=t%10;
    s+=d*d*d;
    t=t/10;
```

```
int perfect (int n)
{
    int d, s, t;
    s=0;
    t=n;
    for(int x=1; x<t; x++)
    {
      if (t % x == 0)
      {
        s+=x;
      }
    }
    return (n==s);
}
int main()
{
  int n;
  printf("Enter any number: ");
  scanf("%d", &n);
  if(armstrong(n))
  {
    if (perfect(n))
    printf("%d is Both Armstrong & Perfect No.", n);
    else
    printf("%d is an Armstrong Number but Not
     a perfect number", n);
  }
  else { if(perfect(n))
  printf("%d is not an armstrong but perfect No.", n);
  else
  printf("%d is an Armstrong but not a perfect no.", n);
  }
  return 0;
}
```

Output →

Enter any Number: 153
153 is an Armstrong Number but Not a Perfect Nu