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Std – XI **sub – computer science**

HANDS ON PRACTICE PROGRAMS

CHAPTER – 9 (PART 2)

1 (a) write c++ program to Interchange the values of two variables

Using the third variable

```
#include<iostream>
using namespace std;
int main()
{
int a,b,c;
cout<<”enter values";
cin>>a>>b;
cout<<”values of a is"<<a<<”\t"<<”values of b is"<<b;
c=a;
a=b;
b=c;
cout<<”values of a is "<<a<<”\t"<<”values of b is "<<b;
return 0;
}
```

Output:

Enter values 15 20

values of a is 15 values of b is 20

values of a is 20 values of b is 15

1 (b) write c++ program to Interchange the values of two variables Without Using the third variable

```
#include<iostream>
using namespace std;
int main()
{
int a,b,c;
cout<<”enter values";
cin>>a>>b;
cout<<”values of a is"<<a<<”\t"<<”values of b is"<<b;
swap(a,b);
cout<<”values of a is "<<a<<”\t"<<”values of b is "<<b;
return 0;
}
```

Output:

Enter values 15 20

values of a is 15 values of b is 20

values of a is 20 values of b is 15

1.(b) To find the perimeter and area of quadrant

```
#include<iostream>
```

```
using namespace std;
int main()
{
const float pi=3.14;
float r,area,perimeter;
cout<<”enter radius";
cin>>r;
area=1/4(pi*r*r);
cout<<”Area:"<<area<<”\n";
perimeter =((pi/2)+2)r;
 cout<<”perimeter:”<<perimeter;
return 0;
}
```

Output:

Enter radius 11

Area:94.985

Perimeter:39.27

2(b) To find Area of triangle

```
#include<iostream>
using namespace std;
int main()
{
float b,h,area;
```

```
cout<<"enter value for breadth and height of triangle ";
cin>>b>>h;
area=1/2*b*h;
cout<<"\nArea of triangle is:"<<area;
return 0;
}
```

Output:

enter value for breadth and height of triangle 6 8

Area of triangle is:24

2(c) To convert the temperature from celcius to farenheit

```
#include<iostream>
using namespace std;
int main()
{
float celsius,farenheit;
cout<<"enter tempratue in celsius";
cin>>celsius;
farenheit =celsius*9/5 + 32;
cout<<"\nfarenheit value:"<<farenheit<<"for given celsius is "<<celsius;
return 0;
}
```

Output:

enter temperature in celsius 20

farenheit value:68 for given celsius 20

3 To find the total and percentage of marks you secured from 10th standard public exam.Display all the marks one by one along with total and percentage. Apply formatting functions

```
#include <iostream >
#include <iomanip>
using namespace std;
int main()
{
Int tamil,english,maths,science, social studies, total;
float percentage;
cout>>"enter marks of tamil,english,maths,science,social:;
cin>>tamil>>english>>mayhs>>science >>social studies;
total=tamil+english+maths+science+social studies;
percentage =total/500 * 100;
cou<<setw(25)<<"\nTAMIL:"<<setw(5)<<tamil<<endl;
cou<<setw(25)<<"\nENGLISH:"<<setw(5)<<english<<endl;
cou<<setw(25)<<"\MATHS:"<<setw(5)<<maths<<endl;
cou<<setw(25)<<"\SCIENCE:"<<setw(5)<<science<<endl;
cou<<setw(25)<<"\SOCIALSTUDIES:"<<setw(5)<<social
studies<<endl;
cou<<setw(25)<<"\nTOTAL:"<<setw(5)<<total<<endl;
```

```
cou<<setw(25)<<"\PERCENTAGE:"<<setw(5)<<percentage<<"
%"<<endl;
return 0;
}
```

Output:

```
enter marks of tamil,english,maths,science,social:90 95 90 95 90
TAMIL                    :   90
ENGLISH                  :   95
MATHS                    :   90
SCIENCE                  :   95
SOCIAL STUDIES           :   90
TOTAL                    : 460
PERCENTAGE               :  92%
```

CHAPTER 10

1. **Program to input a character and to print whether a given character is an alphabet,digit or sny other character**

```
#include <iostream>
#include <ctype.h>
using namespace std;
int main()
{
```

```
char s;
cout<<"enter a character ";
s=getchar();
if isalpha(s)
cout<<"\nThe given character:"<<s<<" is alphabet";
else if (isdigit(s))
cout<<"\nThe given character:"<<s<<" is digit";
else
cout<<"\nThe given character:"<<s<<" is special
character";
return 0;
}
```

Output

enter a character 85

The given character:85 is digit

2. **Program to print whether a given character is an uppercase or a lowercase character or a digit or any other character. Use ASCII codes for it.**

```
#include <iostream>
using namespace std;
int main()
{
char s;
cout<<"enter a character ";
s=getchar();
if(int(s)>=48 && int(s)<=57)
cout<<"\nThe given character:"<<s<<" is digit";
if(int(s)>=65 && int(s)<=90)
cout<<"\nThe given character:"<<s<<" is
uppercaseAlphabet";
if(int(s)>=97 && int(s)<=122)
cout<<"\nThe given character:"<<s<<" is lowercase
Alphabet";
```

```
if(int(s)charactint(s)<255)
cout<<"\nThe given character:"<<s<<" is other character";
return 0;
}
```

Output

enter a character Y

The given character:Y is uppercase Alphabet

3. **Program to calculate the factorial of an integer**

```
#include <iostream>
using namespace std;
int factorial(int); // Function prototype //
int main()
{
int no;
cout<<"\nEnter a number to find its factorial: ";
cin >> no;
cout << "\nFactorial of Number " << no <<" = " <<
factorial(no);
return 0;
}
int factorial(int m)
{
if (m > 1)
{
return m*factorial(m-1);
}
else
{
return 1;
}
}
```

Output :
Enter a number to find its factorial: 5

Factorial of Number 5 = 120

4. **Program to print fibonacci series 0 1 1 2 3 5 8...**

```
#include <iostream>
using namespace std;
int fib(int n)
{
int a=0;
int b=1;
int c;
cout<<a<<”\t"<<b;
for(int i=1;i<n-1;i++)
{
c=a+b;
cout<<”\t"<<c;
a=b;
b=c;
}
int main()
{
Cout<<”enter the number to find fibonacci series “;
Cin>>n;
```

```
fib(n);
return 0;
}
```

OUTPUT:

enter the number to find fibonacci series 5

0 1 1 2 3

5 (i) Program to produce following design

```
A
A B
A B C
A B C D
A B C D E
A B C D E F
```

```
#include <iostream >
using namespace std;
int main()
{
Int i,j;
for(i=65;i<71;i++)
{
for(j=65;j<i+1;j++)
cout<<char(j)<<”\t";
cout<<”\n";
}
return 0;
```

```
}
```

Output:

```
A
A B
A B C
A B C D
A B C D E
A B C D E F
```

5 (ii) Program to print following pattern

```
#include <iostream >
using namespace std;
int main()
{
int i=5;
while(i>0)
{
for(int j=5;j>=i;j--)
cout<<j<<”\t";
cout<<”\n";
i-=1;
}
retun 0;
}
```

Output:

```
5 4 3 2 1
5 4 3 2
5 4 3
5 4
5
```

Chapter 11

1. **Program that reads two strings and appends the first string to the second.if the first string is entered as Tamil and second string is nadu.The program should print as Tamilnadu.use string library**

```
#include<iosteam>
#include<string.h>
Int main()
{
char a[]=”Tamil";
char b[]=”nadu";
cout<<strcat(a,b);
return 0;
}
```

Output:
Tamilnadu

2. **Program to reads a string and converts it to uppercase. Include required header file**

```
#include<iostream>
#nclude<string.h>
using namespace std;
int main()
{
char a[];
cout<<”enter string\n";
cin>>gets(a);
cout<<”\n"<<strupr(a);
return 0;
}
```

Output:
enter string
computer
COMPUTER