

Object Oriented Programming

Lab Task #5

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Submitted to
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Q No.01: Write a program that check the type of the value and determine the data type of the value. In this program, you will develop a Type checking program (Type Checker). If the argument of printType(true) is true or false, it will invoke a function inside and print a message “true is a boolean”. If it is int 463287462 then it should display “4632874 is Integer”.

The sample output format is as

follows: **1.24353** is double data type

334345345 is an integer data type

1 is Boolean data type

A is a character data type

Code:

```
Task1.cpp X
Task1.cpp > ...
1  #include<iostream>
2
3  using namespace std;
4
5  int printType(double x);
6  int printType(int x);
7  int printType(bool x);
8  int printType(char x);
9
10 int main()
11 {
12     printType(false);
13     return 0;
14 }
15
16 int printType(double x)
17 {
18     cout<<x<<" is double data type."<<endl;
19 }
20 int printType(int x)
21 {
22     cout<<x<<" is an integer data type."<<endl;
23 }
24 int printType(bool x)
25 {
26     cout<<x<<" is boolean data type."<<endl;
27 }
28 int printType(char x)
29 {
30     cout<<x<<" is a character data type."<<endl;
31 }
```

Output:

```
TERMINAL  OUTPUT  PROBLEMS  DEBUG CONSOLE
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\Task> cd "d:\Task"
PS D:\Task> & .\"Task1.exe"
0 is boolean data type.
PS D:\Task> 
```

Q No.02: Write user defined function arrayFunction() in C++ which will initialize array by taking values from user at run time and then call this function in main function which will return this array from the calling function to the called function (to the main function) and then show all items of this array in main function using loop.

Code:

```
Task2.cpp X
D: > Uni > 2nd Semester > 2nd Semester Course > Object Oriented
1  #include<iostream>
2
3  using namespace std;
4
5  int *arrayFunction()
6  {
7      static int a[5];
8      cout<<"Enter the Elements "<<endl;
9      for (int i = 0; i < 5; i++)
10     {
11         cin>>a[i];
12     }
13     return a;
14 }
15
16 int main()
17 {
18     int *p;
19     p = arrayFunction();
20     for ( int i = 0; i < 5; i++ )
21     {
22         cout << "a["<<i<<"]"<<" : ";
23         cout << *(p + i) << endl;
24     }
25     return 0;
26 }
```

Output:

```
TERMINAL  OUTPUT  PROBLEMS  DEBUG CONSOLE

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\saada> cd "d:\Uni\2nd Semester\2nd Semester Course\Object Oriented Programming - Lab=Mohammad Abdullah\Lab_Tasks\4"
PS D:\Uni\2nd Semester\2nd Semester Course\Object Oriented Programming - Lab=Mohammad Abdullah\Lab_Tasks\4> & .\"Task2.exe"
Enter the Elements
1
2
3
4
5
a[0] : 1
a[1] : 2
a[2] : 3
a[3] : 4
a[4] : 5
PS D:\Uni\2nd Semester\2nd Semester Course\Object Oriented Programming - Lab=Mohammad Abdullah\Lab_Tasks\4> █
```


