 *DEPARTMENT OF INFORMATION TECHNOLOGY*

Experiment No.9

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| **Experiment Number** | **9** | |
| **Experiment Title** | **Passing and Returning Arguments** | |
| **Resources / Apparatus Required** | Java Developer Kit , Command Prompt | Standard PC with Windows 7,8 or 10 |
| **Objectives**  **(Skill Set / Knowledge Tested / Imparted)** | To Learn the concept of Passing and Returning arguments in java. | |
| **Theory** | In Java all Arguments are passed by value.  Objects are Never Passed but Object references are passed.  In Java only primitive variables and references can be passed.  Java does manipulate objects by reference, and all object variables are references. However, Java doesn't pass method arguments by reference; it passes them by value. | |
| **Program & output** | 1. **Pass By Value**   class Demo  {  public void increment(int x,int y)  {  x++;  y++;  }  }  class Test  {  public static void main(String []args)  {  Demo d=new Demo();  int x=10,y=20;  System.out.print("\nBefore x = "+x+" and y = "+y);  d.increment(x,y);  System.out.println("\nAfter x = "+x+" and y = "+y);  }  }  C:\Users\Ashu\Desktop\Coding\Codes\Java Programs\Screen Shots\PassByValue.png   1. **Returning Object Reference**   class Rectangle  {  private int l,b;  public Rectangle(int l,int b)  {  this.l=l;  this.b=b;  }  public Rectangle getRectangleObject()  {  Rectangle r = new Rectangle(10,20);  return r;  }  public void show()  {  System.out.println("\nLength = "+l);  System.out.println("Breadth = "+b);  }  }  class UseRectangle  {  public static void main(String []args)  {  Rectangle r1 = new Rectangle(40,50);  r1.show();  Rectangle r2= r1.getRectangleObject();  r2.show();  }  }  **C:\Users\Ashu\Desktop\Coding\Codes\Java Programs\Screen Shots\ReturnObjectReference.png**   1. **Swapping**   class Swap  {  private int x,y;    public Swap(int x,int y)  {  this.x=x;  this.y=y;  }    public void swap(Swap s)  {  int temp;  temp=s.x;  s.x=s.y;  s.y=temp;  }    public void show()  {  System.out.print("\nX="+x);  System.out.println(" Y="+y);  }  }  class SwapDemo  {  public static void main(String []args)  {  Swap s=new Swap(10,20);  s.show();  s.swap(s);  s.show();  }  }  C:\Users\Ashu\Desktop\Coding\Codes\Java Programs\Screen Shots\Swap.png | |
| **Conclusion** | Hence we have learned how to pass arguments and return agruments. | |